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A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

PUBLISHED BY
Mitchell Bros. Company.
(INCORPORATED.)

Vol. IV.

CHICAGO, ILLINOIS, SEPTEMBER 15, 1885.

No. 3.

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ONE DOLLAR PER ANNUM.

ESTABLISHED 1863.

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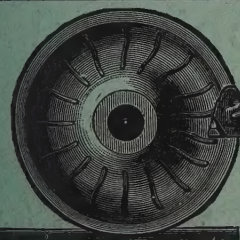
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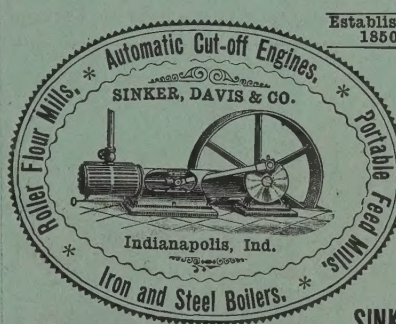
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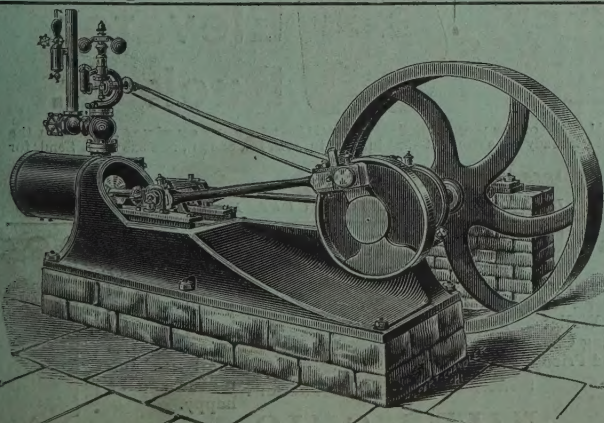
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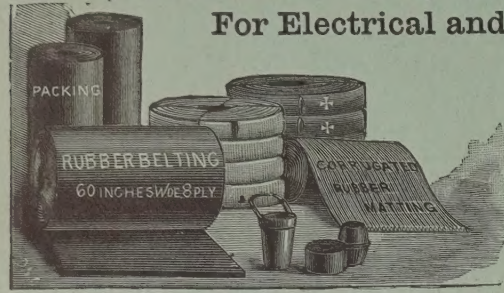
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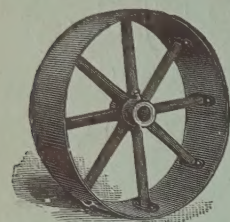
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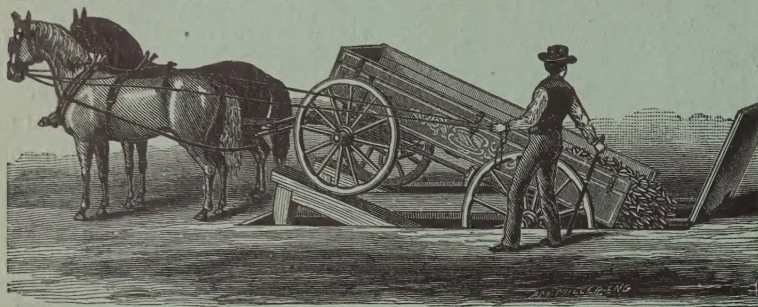
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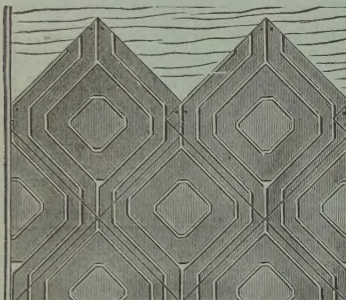
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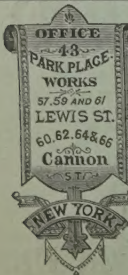
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OFFICE OF G. B. SHAW & Co.,
CHERRYVALE, KAN., March 9, 1885.

DEAR SIR:—In answer to your recent favor will say, that with the three elevators we are now operating, built in accordance with plans furnished by you, we are well pleased, and would have no hesitation in recommending you as a skilled and economical designer of Elevators. With the machines and machinery bought of Barnard & Leas Mfg. Co. we are also well pleased, as it is all first-class and satisfactory in every way.

Very truly yours, G. B. SHAW & Co.

A. C. SHERMAN, Grain Dealer,
ROSSVILLE, KAN., March 5, 1885.

DEAR SIR:—I desire to say, that by following plans in building my Elevator at St. Marys, Kan., furnished me by you, and placing my order for machinery with Barnard & Leas Mfg. Co., of Moline, Ill., for Wheat Cleaner, Corn Sheller, and Cleaner and Elevator Goods entire, I now have one of the best Elevators in the state. Everything works splendid and to my entire satisfaction.

Respectfully, A. C. SHERMAN.

OFFICE OF TUDOR, ELLIOTT & Co., Grain and Chop-feed Feed, HOLTON, KAN., March 21, 1885.

DEAR SIR:—We like the plan of our Elevator very much, and do not think that for a building of the size of ours the plans could be improved upon. Everything is simple and handy, and very easily run. The machinery works fine, and has ever since we started, and the Sheller is the best we have ever seen. The Corn and Wheat Cleaners could not do any better work than they do. We are fully satisfied and pleased with everything, and

should we conclude to erect another Elevator at some other point, will consult you for a plan.

Yours very truly, TUDOR, ELLIOTT & Co.

B. F. BLAKER & Co., Lumber, Building Material,
Grain and Flax Seed.

PLEASANTON, KAN., March 5, 1885.

DEAR SIR:—The Elevators you designed for us at Fontana, Kan., and Sprague, Mo., are giving entire satisfaction, and the machinery all does its work well. We consider your plan very convenient, substantial and economical.

Yours very truly, B. F. BLAKER & Co.

BRINSON, HILL & Co., Grain Commission Merchants, OTTAWA, KAN., April 2, 1885.

DEAR SIR:—Replying to your favor of recent date, we take pleasure in saying, our new elevator built here last season, on your plans and specifications, gives us highest possible satisfaction; and the machinery furnished by Barnard & Leas Mfg. Co. is first-class in every respect, and works to our entire satisfaction. We have, up to this date handled about 150,000 bushels of ear corn, and a large amount of other grain through our elevator, and with your complete outfit of machinery, etc., and have not been to a nickel's expense or had one minute's delay from any cause whatever, all of which we credit to your well-arranged plans, and good class of machinery furnished by your house.

We can fully recommend and endorse your architecture and machinery, and you have liberty to refer to us, any time, any one contemplating building an elevator.

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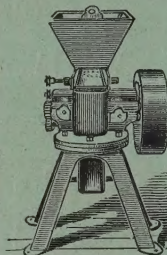
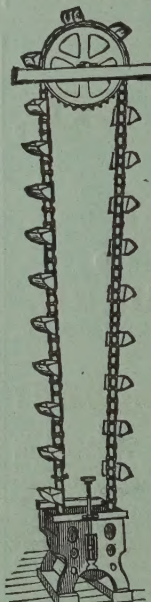
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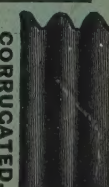


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THE GRAIN COMMERCE OF NEW YORK.

BY OSCAR W. RIGGS, IN FRANK LESLIE'S MONTHLY.

One of the largest elevators here is at the foot of Pacific street, in Brooklyn, and is named after David Dows, the veteran grain merchant. Hundreds of curiosity-hunters visit it every year. It has all the latest improvements, having been built only a few years ago. Its elevating capacity is 60,000 bushels an hour, and it has room in the building for 2,500,000 bushels. The total length of the building is 1,200 feet, a portion of which is divided into nine compartments; the elevating towers are 100 feet high. There are 580 feet of wharf-room on one side of the vast structure, and 850 feet on the other; six vessels may be loaded and two barges unloaded at the same time. Ten great boilers, burning altogether some fourteen tons of coal a day, supply the steam to condensing engines of 1,400-horse power, making 90 revolutions a minute. There is nearly a mile of wire rope for the transmission of the power, and five miles of vulcanized rubber belting, 14,000 feet of which are used for conveying the grain here and there in the building. There is a cleaning apparatus, using about 40,000 cubic feet of air a minute, and cleaning 10,000 bushels of grain an hour.

An elevator, it may be explained, is a mechanical contrivance for lifting grain to an upper floor. It consists,

at the Dows Stores, of belting 24 inches wide, to which are fastened tin cups or buckets, 22 inches long, somewhat triangular in shape, and holding about a third of a bushel. The cups are 13 inches apart, along the length of the belting, which is operated in a long wooden framework, called a "leg," the latter being let down into

the cargo is transferred from the boat to the elevator. In this simple fashion the boats are relieved of their burdens, and the bins in the great warehouses are filled. In the Dows elevator—which is here selected only as a matter of convenience, since there are others equally large and interesting—there are 360 bins, holding from

2,900 to 5,800 bushels, to which the grain is carried on a series of belts. After it is drawn up from the boat, it is immediately conveyed to a hopper scale, in which 200 bushels are weighed at a time; as soon as this quantity has poured into the hopper it is dropped out and carried along to a bin, from which it is sent in the buckets of the elevating belting to one of the three great towers, which are almost as conspicuous on the river front as the Brooklyn Bridge, and thence it is shot down through spouts to different bins in the storage portion of the building



A GRAIN ELEVATOR LOADING VESSELS FOR EUROPE.

the hold of a canal boat or barge. The "leg" opens at the bottom, as a matter of course, in order to bring the belting in contact with the grain, and, the steam power having been applied, it shoots down, bristling, so to speak, with its coat of mail of cups, and gathers up the grain with lightning rapidity. The belt comes down one side of the framework with the cups empty, and goes up the other side with each one filled; at the top the centrifugal force throws the grain off through an aperture down into a bin, and the tin-clad belting darting down again into the hold, goes through the same process till

to the right or the left of the towers, as the case may be. The grain is thus carried from tower to tower and distributed among the 360 bins. From the sides of the storage compartments are other spouts or long pipes through which the grain is sent down to the vessels waiting to take on cargoes at the wharves close at hand.

One of the most interesting sights in the great elevator is to see the wheat on the horizontal belts going to be mixed with other wheat, or else to be stored in some one of the bins. It streams out from a wooden spout on to the belt, thirty inches wide, turned inward slightly at first in

order to prevent the grain from falling off; the soft-colored wheat, piled about four inches high, leaves a clearly-cut margin on the serpent-like belting as it glides along with its rich spoil at the rate of 500 feet a minute. Then there are screens afflicted with a constant malarial shaking by which stray kernels of corn, barley, or rye which happen to be in the stream of wheat are separated from it, and cast into outer darkness. Then, too, there are six fans by which the wheat or corn is cleaned. Each fan is eight feet in diameter with five feet face, and being driven by steam, turns 290 times a minute. On opening the side of the cleaning apparatus the current of air is found to be surprisingly strong, even considering the tremendous force with which the fans are driven. It is steam so mysterious, so wonderful in its power that here assumes the character of a judge; the fan is in his hand and the chaff is swept away with a force and thoroughness that gives the figure of the sacred writer new significance.

Mounting to the roof of the main building on the way to the top of one of the three towers, so strangely weird and Aztec-like at first sight as they stare down from their lofty seats at the pygmies below, we pass some steel wire cables, three-quarters of an inch thick extending from tower to tower, and driving the machinery from the main shafting. "You would scarcely suppose that those cables are whizzing through the air at the rate of 6,000 feet a minute," said the intelligent guide, "but such is the case. They are well made, too. Colonel Roebling, the chief-engineer of the Brooklyn Bridge, constructed them."

At the top of the tower, which tapers into pyramidal form, we are 176 feet above the river as it gleams along on its way out to the bay, or forty-one feet higher than the center of the great bridge which stretches its white cables between the two cities about half a mile away. We see great ships loading from the point directly below for a long distance on the Brooklyn shore; dwarf-like men are moving steadily to and fro, and horses and trucks look like the counterparts of children's toys.

Down again, now on the brown, dusty wharves and into the bustling scene that a few moments ago from the top of the great tower looked so Lilliputian. Here is a large slate-colored steamer called the Scots Grays, which, if she did not sit quite so high in the water, might be taken for an old blockade-runner. She is to take a large cargo to Bristol, England; barrels of flour are being taken from the wharf and swung high over the bulwarks of the vessel by the rattling winches, and then lowered into the hold; she is also taking bags of flour from a dark-red barge close by, which boasts, by the way, of flowers in pots and a trellised vine on the upper deck, where there is also a mastiff stretched in a shady spot, surveying the scene with the calm dignity of his race, while a woman sits in a rocking-chair sewing. Down through the spout of the elevator on one side comes a steady stream of mixed white and yellow corn, pouring into the steamer; quarters are being fitted up on the upper deck for cattle, and there are piles of timber and joists, and perspiring carpenters are adding the sound of hammers and saws to the noise of shouting longshoremen, the creaking and rattling of windlasses, and the dull, thunderous rumbling of the powerful machinery in the great warehouse and the elevator. Here is another British steamer, with her red ensign scarcely stirred by the languid breeze. An awning shades the after-deck from the blazing sun; heavy cordage holds the vessel to the wharf, and great chains sustain the huge anchor; fat red-and-white funnels lift themselves above the scene of confusion on her deck. Corn is darting down through a large tube, lowered from the warehouse, into bags, which men on the deck are hold-

ing; one manages a stopper at the end of the tube while another holds the bag, which is filled in a twinkling; whereupon it is passed to a third, who has a thick band of twine around his waist; he sews up the bag with tailor-like dexterity, and then it is handed down to red-shirted, brawny-chested men in the hold, who are plainly in sight, as the vessel has now nearly as much as she can carry. The tube mentioned above has a sort of double elbow, so that two bags can be filled at once; each bag holds $2\frac{1}{2}$ bushels. There are four hatchways, but most

than half, Belgium steamers taking the next largest quantity. In 1883 there were fewer vessels engaged in the trade—491—and of these 68 per cent. were steamers, as the "white-winged fleets" are fast disappearing from the ocean; the total shipments were 51,970,000 bushels. This was an increase, but the exports unquestionably would have been much larger but for the active competition in European marts of India, Russia, Australia, and Egypt, whose prices were lower than ours, which, indeed, were unduly high, owing to speculation here and

at the West, especially in Chicago.

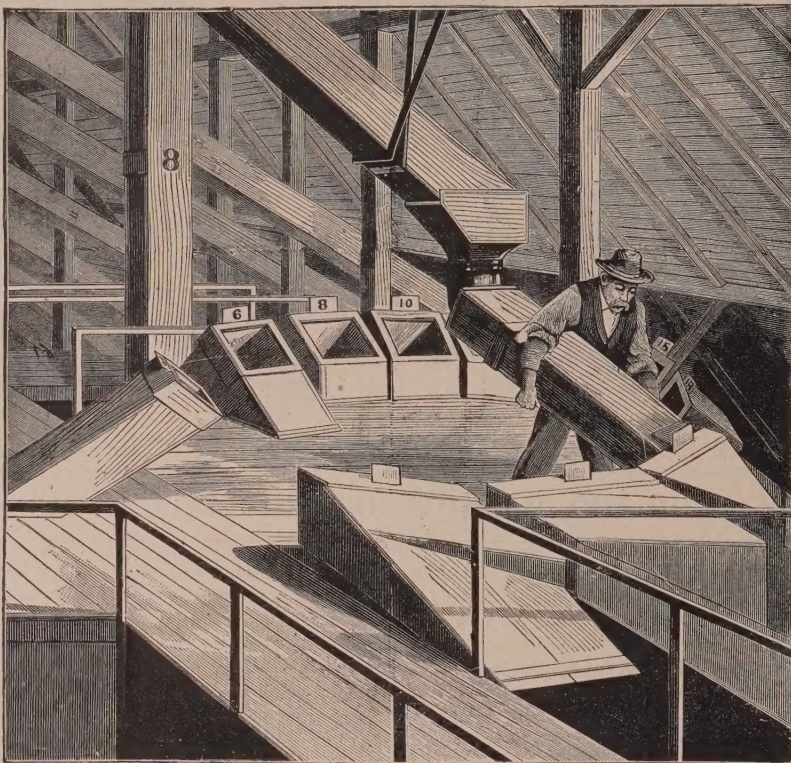
The East Indian farmer is under much less expense than the American, and railroads are fast being constructed to aid him in marketing his crop, while farming implements not offensive to his religious prejudices are also being supplied to him, so that a few years must witness a material improvement in his methods of culture. Though a check has been given to such projects for the time being by the Turkish Government, it seems certain that eventually Palestine and other parts of Asia Minor will be pierced by canals and numerous railroads, all acting as so many arteries of commerce, and tending to develop the agricultural resources of a land which, for ages, under the fanatical Moslem rule, has been of little practical benefit to the rest of the world.

Our farming implements, moreover, are being sent to Russia, and Americans there, to the astonishment of the slow-going Russians, are beginning to revolutionize the trade. The peasantry of Egypt, too, are sending increasing quantities of grain every year to Europe. When the country is rid of political adventurers, native and foreign, not to mention such a dangerous fanatic as El Mahdi, who, fighting the government with the courage and not a little of the skill of Mohammed, has terrorized large populations, there may be an even more decided advance in agricultural pursuits. Lastly, the energetic population of Australia, destined some day to become an independent nation, is fast developing husbandry, to the undoubted injury of our farmers. The exports of wheat thence to Europe have increased 700 per cent. within five years, and it may be added here that the shipments from East India in the same direction within fourteen years have increased no less than fifty-fold.

As to the nationality of the vessels engaged in the commerce here, we have seen that the British and the Belgian are the most prominent. After these come Italian, German, French, Dutch, Austrian, Danish, Norwegian, Portuguese, Spanish, and Swedish ships. No American vessels had any share what ever in the business; our flag is now almost a curiosity on the seas. The case is not so bad as it seems, however, since some of the steamers that carry the Belgian flag are owned by Americans, and in many of the English ships and steamers they are large shareholders. It is cheaper to build ships abroad than in this country, but our laws, it is well known, do not permit foreign-built vessels to fly the American flag. As to the question of flag, many of our merchants either care little about it or are entirely indifferent on the subject; the question of dividends is considered of most importance; and many would be ready, with true commercial lack of sentiment, to enroll their ships under the standard of Timbuctoo if the annual emoluments might thereby be increased.

[TO BE CONTINUED.]

An interesting weighing operation can be observed at the weigh-locks of the tide water canal at York Furnace, Pa. A boat of 150 tons is run on the scales, the gates are closed at each end, the water let out, and then the weight of the boat can be noted and the bill of lading made out.



INTERIOR OF A GRAIN ELEVATOR.




WEIGHING GRAIN.



TESTING GRAIN CARS.

of them are now full. The steamer is of 3,000 tons' burden, and will, we are told, carry 108,000 bushels to Cork "for orders"; that is to say, the owner of the cargo will there give orders whether she is to sail in quest of a market, be it in the United Kingdom or on the Continent; possibly she will go to some English port, possibly up the Baltic. The advantage of having the steamer stop at Cork and receive these directions, is that the owner has a better chance of selecting a profitable mart. Years ago the steamers stopped at Cowes for such orders, but Cork is now the favorite port, and "Cowes and a market" is a commercial phrase of well-nigh forgotten days.

No less than 1,300 vessels sailed from here in 1882 with grain cargoes, and of this number about 1,000 were steamers, but the latter did not include those of the regular mail lines, which also carried away millions of bushels. Of the 46,162,000 bushels exported in vessels which took whole cargoes, British craft carried more



COMMUNICATED

[We invite correspondence from every one in any way interested in the grain trade, on all topics connected therewith. We wish to see a general exchange of opinion on all subjects which pertain to the interests of the trade at large, or any branch of it.]

THE "DUMP" SETTLEMENT.

Editor American Elevator and Grain Trade:—Kindly publish notice to the grain trade through your valuable journal that the Grain Dealers' Association, of Illinois, and J. M. Harper, of Peoria, have settled their differences relative to grain dumps, and the members of the Association have taken license from Mr. Harper for the use of grain dumps under the Swickard, Kenaga, Walton and Hall patents.

* *

WANTS THE MONEY SPENT.

Editor American Elevator and Grain Trade:—While men may differ conscientiously in politics, there is one thing they should stand to firmly. The business of our country is depressed, and the National Treasury is loaded with wealth. Why should this be so? This is our money; let us use it. Why not build an air-line railroad from Washington to San Francisco, and control it as a National highway? A canal from Chicago to some point on the Mississippi, another from the Arkansas River to the Missouri, and another, say, from the Arkansas to the Gulf, south from Arkansas City, Kan.

This is our money, and our Uncle Sam is not doing us justice to hoard his gold and silver from us when we want bread, and he is growing fat with \$300,000,000 locked up in his money bags. Shame on the men of Congress, the men of commerce, and the editors who advocate free trade. Let us have a fair tariff, and spend the money freely, building railroads, canals, telegraph lines, etc., that the people may have labor.

G. R. D.

Nevada, Mo.

A WORD FROM MR. HOFFMAN.

Editor American Elevator and Grain Trade:—In your July number Abernathy comes to the front in an article that makes me think something must have been biting him. That he should over-estimate the Kansas wheat crop is easily explained when one remembers that he is paid for doing it. But why he should go out of the way to a tack Hoffman is not so clear until it is known that said Abernathy, in spite of his loud-mouthedness, occasionally gets left on an order for mill machinery by the J. B. Ehrsam Machine Co., of which said Hoffman has the honor to be president. So, so, Abernathy! you "have been over the state." Yes, a fellow of about your size telegraphed from McPherson July 16 that McPherson county would have two and a half million bushels of wheat, when it has not over 500,000. Yes, and a man of your size also telegraphed a day or two later from Abilene that Dickinson county would have 2,000,000 bushels, when it falls short of 500,000 milling wheat. But, then, that is no worse than your estimate on the entire state. You only missed it, to take your lowest estimate, 5,360,000, or over 35 per cent. of the entire crop, while Hoffman missed it less than 2 per cent.

To give you all the prominence your accurate estimate deserves, let us recapitulate:

According to Abernathy.....	15,000,000 to 20,000,000
Hoffman.....	9,500,000
Official (State Board of Ag.).....	9,640,000

So Hoffman is evidently long on wheat. Well, it seems that with all your cuteness you have not done quite as well as Hoffman in wheat nor anything else. Try again, Abernathy, but next time give us your opinion on something on which you are posted.

Speaking of our wheat crop, our worst estimates have come true. The amount of milling wheat will fall considerably short of the official estimate. Taking the reports from twenty-one points of receipts in various parts of the state, we find that about 15 per cent. of the wheat received is unfit for milling. This would put our entire output of available wheat below 7,000,000 bushels, which, I fear, is nearer the truth than the sanguine expectations

of our friend Abernathy. Corn, on the other hand, is magnificent, and will go far towards keeping Kansas in the very front of agricultural states.

Truly yours,

C. B. HOFFMAN.

Manitou, Col.

NEBRASKA LETTER.

Editor American Elevator and Grain Trade:—With the coming of September, with its cool nights and hot days, a letter purporting to give any crop news must of necessity be limited to the consideration of the only growing crop left—corn.

The small grain is all in "out of the wet," at last, and the farmer who can offer the grain buyer any grain that will grade No. 2 is a remarkable exception to a very general rule. With wheat at 45 cents, oats at 10 to 12½ cents per bushel, and hogs dying by hundreds, the luckless farmer finds his only resource in raising and selling corn. The immense crop that is now maturing so rapidly in all sections of the corn belt, does not auger very remunerative returns for the year's toil. Corn was bought out here last fall in some portions of the state and for a very limited period, at as low as eight to ten cents per bushel. The prime question now agitating the mind of the granger is not "How much corn," but "How much money for my corn." It is really a very intricate question taken in all of its bearings. On one side we have the splendid condition of the crop; the increased acreage in the old corn-growing states, owing, in part, to the failure of small grain; and lastly, the increased area of new soil brought under the plow, all positive conditions that go to make up a large increase over last year.

On the other side is the cholera epidemic, that is making terrible havoc among the hogs of this state and seems to be generally prevalent, and also the cattle-feeding interest—which last year proved a financial failure to many sanguine stockmen—are two negative facts that would go to cut off a large percentage of the demand for this great staple cereal. Taking all these points into consideration one could easily conclude that corn must be very low this winter.

However, there is another side to this as well as to other questions. If there is to be buying, there must also be selling, and very often their ideas of values differ widely. The immense crop of last year placed the Nebraska farmer in pretty good financial condition. You will find by inquiring of mortgage brokers, that they are not getting as high rate of interest, nor making as many loans as has been their wont. The fact is, the farmers have been making money the past three or four years, and are now in condition to hold the result of their season's toil, and not give the benefit of a raise in the May market over November or December to the affluent grain buyer. I have seen several parties from Eastern states looking for a "good town to crib corn in." Well, there are lots of good towns out here, and plenty of good country around them, too; but don't congratulate yourself of being able to fill your long cribs to bursting with corn bought "at your own price." The very calamity that has forced the farmer to sell his drove of hogs has placed him in temporarily easy financial circumstances; and he isn't going to sacrifice his corn crop by hauling it to market direct from the field at no such price as eight or ten cents per bushel; at least I will venture to assert that as my candid opinion.

The State Fair is just ready to open up at this writing, and has every indication of being an unparalleled success in all departments. It is located here, by law, for five years; and as this is the first year Lincoln is making commendable efforts to give it a grand send off.

Elevator building is progressing finely, and will be kept up until severe winter weather sets in. Among the many houses going up, I call to mind now Wm. London, at Morton; Vanderveer Bros., Davenport; McClure & Griffin, Elk Creek, and T. W. Lowrey, at Cheney and at Pleasant Dale. Barber & Wirt and H. Wellington are both building at the towns on the new extension west from Holdrege, while John F. Harris & Co. are occupying the towns on the Republican City line down into Kansas.

Some changes have occurred among elevator men, viz: W. J. Crandall, Atlantic, Ia., has bought out Worl & Beam, at Firth; J. M. Sewell, of Juniata, has bought Geo. Marks & Co.'s fine steam elevator at Hastings; J. W. Worl, Firth, has bought out Mr. Barnhouse, of Barnhouse & Norcross, Adams, and the firm name will be Worl & Norcross; W. C. Henry, of Pawnee City, and quite well known at one time as the "corn king," has

sold out to Linn, Cooper & Co., of Humboldt, his extensive elevator interests, and embarked in the banking business, and is going "long" on National Bank notes.

I am pleased to note the familiar appearance of the AMERICAN ELEVATOR AND GRAIN TRADE in nearly every office in the state, and hear it favorably spoken of by nearly every grain man. You are surely worthy of the success that you have attained.

Very respy,

A. B. COLTON.

Lincoln, Neb., Sept. 10, 1885.

CORN CRIBS.

Wintering corn in imperfectly built cribs is still a widespread habit, though it is well known that it is greatly deteriorating to the value of the stored corn. Such cribs are invariably infested with rats and mice, which damage the corn not only by what they destroy by eating out the chit or germ of the corn, but also by the effluvia arising from their nesting places, contaminating the corn all over. Bitter corn arises largely from fermentation of the cob, when put in wet. Too compact storing causes mold in the corn, which finally gets damp and rotted. All this generally involves a loss large enough to pay from 10 to 15 per cent. on the investment necessary to build a permanent crib that would keep the corn perfectly safe from the deteriorating influences for years.

A crib, eight feet at the bottom, flared to twelve feet at the top, and covered securely from rain, will preserve corn perfectly if dry enough to crib, because the air circulates freely all around. If such a crib should be extended, say 100 feet, the case would, of course, be different, and a crib uniformly twelve feet wide is still more unfit for wintering corn. Twelve-foot cribs are not unusual in the dry climate of the West, and keep the corn perfectly in ordinary seasons. But in seasons when the corn does not ripen perfectly, or when a long spell of foggy weather falls in, penetrating the crib, the corn becomes damp through and through. If warm weather ensues before the wind dries out the corn, the germ is attacked, producing bitterness and mold, resulting at length in rotteness.

The fact that corn kept compactly in wide cribs never dare be used for seed, is sufficient evidence that such are not calculated to season corn in the best manner for other purposes. It is, therefore, wise economy that every one build crib room enough to properly save all corn that must remain with him after March or April.

In building a crib three things are chiefly to be taken into consideration: Immunity from rats and other vermin, provision against rain and snow getting in, and safety from heating by providing circulation of air.

Protection against vermin is obtained by elevating the crib eighteen inches above the ground on posts, placing an inverted tin pan on a large, flat, smooth stone, between the top of the post and the sills of the crib.

Danger from a leaky roof is averted by a proper inclination—not less than a quarter pitch—and by keeping the roof boards, if so made, carefully nailed. Grooved boards properly battened make the most perfect roof. For obvious reasons it should be a double pitched roof, and extend over the sides of the crib twelve inches to prevent the drip from driving in on top of the corn. If before snow is expected the crib be boarded tight from under the eaves, six inches below the top of the corn, this boarding to be removed early in spring, no danger from driving snow will be experienced. If, in addition, the side strips are put on diagonally, the drip will be distributed more equally along the outside and quickly dry.

To prevent heating or fermentation in the body of the crib twelve feet wide, the following plan will be found practicable and safe: Form a skeleton of six-inch fencing, two or three feet wide at the bottom and half the height of the crib, carried to a sharp peak at the top of the skeleton, running the entire length of the crib, and the spaces between the boards to be six inches wide. Thus the crib is virtually divided in two, allowing a horizontal and a vertical circulation of air through the center.

In a crib built in that manner, corn will never spoil unless it be put in wet.

Grain freights, all rail, are now down to 12 cents to New York, 10 cents to Philadelphia, and 9 cents to Baltimore per 100 pounds. Such terms offer great inducements to shippers.



EDWARD P. ALLIS & Co., Milwaukee, Wis., have issued a very neat catalogue of their celebrated Reynolds-Corliss Engine.

JAMES LEFFEL & Co., Springfield, Ohio, have just published a very attractive catalogue, finely illustrated, describing the Leffel Turbine and the Bookwalter Engine.

FRANK BURT is erecting a factory building two miles southwest of Kalamazoo for the purpose of engaging in the manufacture of fanning mills. He has purchased a Westinghouse Engine.

THE HOWARD IRON WORKS, of Buffalo, N. Y., have issued a descriptive illustrated catalogue of the Lotz Patent Grain-Shoveling Machine, which they will send to grain men and others who apply for it.

THE BARNARD & LEAS MFG. Co., of Moline, Ill., are running to their full capacity, and report business exceedingly good. They are making extensive preparations for the display of their goods at several fairs.

THE new firm for the production of perforated sheet metal, established on Lucas avenue, between Twenty-first and Twenty-second streets, St. Louis, have contracted for their engine and machinery, and will be ready for starting up soon.

CHARLES KAESTNER & Co., of this city, report business with them good. They have recently sold a large number of their "Kaestner" Mills, paint mills, putty mills, and paint-grinding outfits, also several 60-horse power automatic engines and boilers, with complete steam-feeding plant, which have been shipped to various parts of the country.

AMONG the various uses to which the Caldwell Conveyor has been put, is for carrying—work in cotton seed oil mills; and we see in the *Times-Democrat*, of New Orleans, that every prominent cotton seed oil mill in the South is a customer. Mr. Caldwell said that his exhibit at the Exposition brought in large and varied classes of customers, and now 55,000 feet of his conveyor are in use south of Mason & Dixon's line.

THE NORDYKE & MARMON Co., Indianapolis, Ind., in regard to the World's Exposition, at New Orleans, say: "We have been benefited by the New Orleans Exposition, as nearly all the other exhibitors of machinery were, by an increased demand for our manufactures. The increased business done in the South was very large. It has shown us a manifest interest in manufactures in the Southern states, and the establishment of a number of new factories. We cannot tell how many of these have been established, but as we fitted up a large number, the showing must be very flattering indeed. We equipped a roller mill at Corsicana, Tex., at an expense of \$30,000, and made large improvements in another mill at Paris, Tex., \$20,000; we supplied mills at Lancaster, Tex., \$16,000, and Fort Worth, Tex., \$26,000. At Corsicana, Tex., we erected an elevator at a cost of \$30,000. These and other jobs made our business in the South, growing out of the New Orleans Exposition, exceed \$125,000. We expect still larger business to follow."

ONE of the finest catalogues of the season is the new one just issued by the Link-Belt Machinery Co., of this city. It contains 160 pages inclosed in a handsome lithographed cover, and its descriptive matter is illustrated by over 200 cuts, many of them occupying a full page, representing the company's line of manufacture. For instance, ten different kinds of elevators for various purposes are shown, and thirty different sizes of link-belt are illustrated, having a working strain of 75 to 7,000 pounds. One new feature is the Automatic Discharge Barrel, Keg, and Sack Elevator, something of special interest to millers. Another new feature is the cable chain for long conveyors. Two conveyors made of this chain have been in use in the Chicago & Pacific Elevator, in this city, for three years, each being 194 feet long, and capable of handling 8,000 bushels of wheat per hour. A list of 400 different sizes of sprocket wheels is given, and a new price list of tin and iron buckets, giving the maximum carrying capacity in bushels per hour with buckets twelve inches apart, in dry measure, not

liquid measure. So, too, a table is given, showing the carrying capacity of maple flights. Lists of gears, pulleys, etc., follow, making the volume a complete index to the company's line of goods. The book shows the handiwork of Mr. T. S. Miller, in its fine illustrations, and in all respects, is a creditable piece of work.

GRAIN—ITS STOWAGE, STORAGE AND PRESERVATION.

[Continued from Pages 27, 28 and 29 of last issue.]

The following is from a recent issue of the *London Times*:

"In consequence of the great loss of Atlantic cargo steamers within the past three months through cargoes of wheat in bulk shifting and causing them to capsize and founder, there is not only an extensive movement in the north of England on the part of shipmasters, but also among iron steamship owners themselves, who are their own underwriters, to put an end to the mischief. W. Dickinson, of the Quayside, Newcastle, an extensive iron shipowner, has got the support of a large number of owners, and at the next annual meeting of the Marine Association, to be held on Feb. 20, a resolution prepared by that gentleman will be submitted that a by-law be passed to compel all grain shipments to be made in bags to prevent vessels shifting their cargoes at sea. The cost of bags would be trifling. They could be resold at nearly cost price in England, or they might be reserved for future voyages. The weight of those bags would be very little, not much more than that of the modern shifting boards now in use, and which have proved quite insufficient to keep cargoes steady."

There are two sides to this question of bags versus bulk. Well-known and reliable experts state that they do not believe there is any more danger in carrying a cargo of bulk grain than a cargo of grain in bags. True, some of the underwriters discriminate in favor of the latter to the extent of one-quarter of one per cent., though this is not always done; but the experts do not think this discrimination is warranted by any actual increase in the risk. Bags are sewed by machinery and rip easily; when stowed away the grain leaks out and the loosened bags begin to shift and tumble about, endangering both ship and cargo. Grain in bulk we are assured cannot behave worse than this. The fact is, when grain is carried both in bulk and bags on the same vessel, that the risk is greater often than either the one or the other would be alone. It is a common custom to load the ship nearly full with bulk grain, and then put a layer or two of bags on top. These bags, on account of the narrow space allotted to them, must be stowed by men on their hands and knees, and it is unnecessary to say that under these circumstances the work cannot be satisfactorily performed, so that the rule of safety would be either more bags or none at all.

The two methods of transporting cereals, it is claimed by people experienced in the trade, are equally safe, or nearly so, the bags having a slight, and in many cases no rebate from the underwriters. On iron vessels also no more grain can be carried in bulk than in bags, so that in that respect they are on an equal footing. In the matter of expense, however, there is a radical difference. The cost of loading bagged grain per ton is:

Hire of bags (60 to 80 cents).....	\$.60
Filling bags.....	.25
Stowing bags.....	.25
Total.....	\$1.10

The bags are only hired for the voyage, while the fittings for grain will last for several voyages. The result thus is greatly in favor of bulk grain, as regards expense. The *Times* speaks of buying the bags and using them over again. The expense account in that case would stand:

Cost of bags.....	\$4.80
Fittings.....	.25
Stowage.....	.25
Total.....	\$5.30

Of course the cost on the first voyage would be much greater than on the bulk grain. The expense on the second voyage would then be the fair criterion, because the fittings for bulk grain will last as long as the bags, so both items on this trip would be dropped. The account would then stand:

Grain in Bags.	
Sewing of bags.....	20c
Filling.....	25c
Stowing.....	25c
Total.....	70c

Grain in Bulk.

Loading, including trimming.....28c

Of course if whole cargoes of bagged grain are safer than those in bulk, these experts admit that no item of expense should stand in the way of safety. But they claim that the art of ceiling and stowing has greatly improved of late years, and refers especially to the new Quintavalle method of stowing bulk grain, which, by means of diagonal bulkheads, effectually prevents the shifting of the cargo. This has been well received by inspectors and captains, and makes bulk cargoes of grain as safe as human ingenuity can make anything safe. The bagging side is maintained by a party who has experience and character, and insists that before 1850 as many as 50 per cent. of the vessels sailing from New York with cargoes of bulk grain, either returned disabled, or were never heard from. The art of ceiling was not then as well understood as it is now, and the division boards were not of proper material or make, and often the grain was allowed to take care of itself. It was noticed that vessels with grain in bags were attended by no such percentage of losses, and thus began the discrimination in favor of bags, which has continued to this day, notwithstanding that ceiling is now better, and bulk grain can be carried much safer than before. It is true that the bags at that time were hand-sewed (they had no machines to do the work then), and were consequently stronger than the bags now used. But even these machine-sewed bags, some claim, are safer than the bulk grain. Suppose they do rip, not all the grain will leak; the bags will adhere to each other and prevent such a tumultuous shifting of the cargo as in the case of grain in bulk. Universal experience has proven the greater safety of bags. One reason why the bulk cargoes have proven so dangerous, it is claimed, is improper trimming. The difficulties here are very great. The grain is shot into the vessel like a stream of water. The trimming must be done in great haste, amidst the thick dust which chokes the workmen and hinders their labor. It is no wonder that trimming is carelessly done under such circumstances, and often there is a corner left which, when the vessel begins to pitch, it will shift into, and equilibrium will be destroyed.

The important commercial interests at stake are not motives sufficiently powerful to prevent this carelessness, as we are in too much haste to grow slower and be surer. Everybody is running a break-neck race, and everything is done as though it were a matter of life and death. Managers and owners seem willing in too many cases to risk life and property in carelessly-loaded bottoms, and there are many who do not care if a vessel be lost if it is insured; if the cargo gets through they make something; if it is lost they make something more. And competition among insurance companies is so great that risk is scarcely taken into account, and if a policy can not be obtained here, it will be got from the English Lloyds, which are in reality but gambling clubs, where fearful risks are continually taken on much the principle governing a man when he buys a lottery ticket; with this difference, however, that the Lloyds in the course of the year usually manage to make their receipts more than an offset to their losses. There are men who get hold of a rotten ship, who will get an insurance on it here or in England, will get a cargo in New York, and off she goes; if the vessel gets through, all right; if lost, so much the better.

Of course these observations do not apply to everybody, but they characterize the feeling among a large class.

[TO BE CONTINUED.]

A NEW FLOATING ELEVATOR.

A new kind of floating elevator has been built at Cleveland, Ohio, in the shape of a boat, 25x35 feet square and 10 feet from top of rail to floor, provided with two powerful engines and a boiler. The "elevator," it is stated, will be taken to Buffalo, where it will be used to transfer grain from lake vessels to canal-boats; and it is expected that it will have a transfer capacity of 3,000 bushels per hour, and a storage capacity of 10,000 bushels.

A Clark county (Ga.) farmer, having disposed of his winter wheat, sowed spring wheat in its stead, and now rejoices in a yield of from twenty-five to thirty bushels per acre.

THE "STOVER" IMPROVED GEARED OR POWER WINDMILL.

Wind, as a motive power, is just beginning to be appreciated in the United States. It is true that windmills have formed a feature of some Eastern landscapes for many years, but the varied uses to which this cheapest of all powers may be applied are as yet imperfectly understood in this country. It is true that the farmers of the West have adopted the windmill with enthusiasm, but it is only in the older countries that the windmill is used as a motor to anything like the extent that its cheapness should warrant. There are ten thousand windmills in Holland, and in Germany there are eighteen thousand flour and grist mills driven by wind. Windmills were known in Bohemia as early as the eighth century, and everywhere in Europe the value of this motor is appreciated.

That the windmill is destined to play a far more important part in our industrial affairs, is apparent. Our American manufacturers have made very decided improvements in the form of the windmill in vogue in older countries. Our illustration shows the "Stover" Improved Geared or Power Windmill, which can be utilized for a countless number of industrial operations, such as grinding grain, shelling corn, driving saws, grindstones, etc. The standard size of this mill is sixteen feet, but both larger and smaller ones are made to order. The manufacturers are the Freeport Machine Co., of Freeport, Ill., who will be pleased to correspond with such parties as may contemplate putting in a cheap and serviceable power.

A NEW PEST OF THE FLAX PLANT.

Some papers of Northwestern Iowa report a new pest to the flax plant in the shape of an active little flea or worm which attacks the plant near the root and eats into the stalk, working great damage to the crop, especially where flax has been grown for several years. On ground where flax has never grown before, the insect has not been discovered. How is this to be accounted for? New insects destroying the farmer's crop are constantly being discovered which have never been heard of before. There is the corn root-worm, which, so far as yet known, preys on nothing but corn roots; there is the Colorado potato bug, which was not known to exist until it made its destroying run over the world; there are hundreds of other not less injurious insects which but lately have added to the annoyance of suffering humanity. Has entomology any satisfactory answer about where and how these insects have lived until they fell upon the unsuspecting farmer? However, the insect plague seems not to be a novel calamity to troubled humanity; for we read already in Prophet Joel: "That which the palmer-worm hath left, the locust hath eaten; and that which the locust hath left the canker-worm hath eaten; and that which the canker-worm hath left the caterpillar eaten."

IN THE SOUTHWEST.

[Special Correspondence AMERICAN ELEVATOR AND GRAIN TRADE.]

KANSAS CITY, Mo., Sept. 13, 1885.—The crop of wheat in Kansas has been about all threshed, and now the supply is known to be smaller than for several years. The product of this year's crop is reckoned from the most conservative basis at 10,233,385 bushels, being just 21.92 per cent. of the crop of 1884. It will be found by reference to reports sent out earlier by the agricultural department at Washington that the yield this year was put down at about 36 per cent. of that of last year, and on

which did great damage to the crop; to which add the injury done by the Hessian fly and other insect pests, and a condition is found which indicates a less harvest than during any year since 1877.

In corn a better condition of affairs is shown. There have been 4,922,000 acres planted in this cereal, being an increase of 377,000 over the acreage of 1884. The condition of the crop is 83 per cent. as compared to 1884 at this time. The probable product as computed from the most reliable sources is 169,171,000 bushels, being 21,699,686 bushels less than in 1884. This shortness is due to the lateness of the season for planting last spring,

which was fourteen to twenty days behind that of 1884. With the improved prices the money value of the crop will be 11 per cent. in excess of that of 1884. Thus it will be seen that corn will form a fair plaster toward bringing to a healthy point the values of Kansas crops.

I have been to some trouble to find out the amount of grain leading Southern points in Kansas ship to this point as compared to that sent elsewhere. Unfortunately I have been unable to get reports from Wichita, Wellington, or Independence. Nevertheless, the following will no doubt prove of interest to commission men and grain dealers, not only here, but at Chicago and St. Louis.

Augusta will have 600,000 bushels of corn to ship this year. Of the grain sent out from there 45 per cent. goes to Kansas City; 45 per cent. to St. Louis, and 10 per cent. to Chicago. Two-thirds of the grain shipments of Chanute go to Chicago, and about all the remainder to St. Louis. Harper sends about four-fifths of its grain to Kansas City. Ellsworth divides up its grain shipments about equally between Chicago, St. Louis, and Kansas City. Girard sends the bulk of her grain to St. Louis. Eureka gives 75 per cent. of its grain to Kansas City, 15 per cent. to St. Louis, and 10 per cent. to Chicago. Twenty-five per cent. of the grain from Cherokee goes to St. Louis; 15 per cent. to Memphis; 10 per cent. to Chicago, and the remainder to Kansas City. Columbus divides its shipments of grain about equally between Kansas City and St. Louis. Seventy per cent. of Pleasanton's grain finds its way to this point. Eldorado puts 80 per cent. of its grain into Kansas City; 15 per cent. goes to Chicago, and the remainder to St.

Louis. Coffeyville sends about half her grain to Chicago and St. Louis, and the rest here. Out of 120 carloads of grain shipped from LeRoy, eighty went to St. Louis; twenty to Chicago; twenty to Texas, and none to Kansas City. Winfield divides between Chicago, St. Louis and Kansas City, the latter getting the bulk. St. Louis draws heavily upon Humboldt, and Kansas City and Chicago modestly take a back seat.

The above will serve to show that, while Kansas City takes the bulk of grain from Southern Kansas, St. Louis is still largely in the field. Believing that a good deal of trade which naturally belongs to this point is taken by St. Louis, the business men of this city are interesting themselves in a project for having a railroad built from here to Paola, to connect the Gould system of roads in that section more intimately with Kansas City. Mr. Gould has already promised that this connection will be



THE "STOVER" IMPROVED GEARED OR POWER WINDMILL.

this basis many merchants and speculators had framed their estimates, which went to prove that, owing to the higher prices of cereals this year as compared to last, the actual monetary value of the product would show comparatively little shrinkage. The actual state of affairs seems to prove the contrary. There were 1,755,728 acres planted in this cereal, and of this 832,500 or 47.42 per cent., did not pay for harvesting, and was left alone. This year calamity seems to have followed winter wheat from germination to full development. In the western and central portions of the state, including the greater part of the country known as the "wheat belt," sowing was delayed on account of insufficient moisture, much beyond the usual time for seeding. The result was late germinations, slow growth, and feeble plants at the beginning of winter. The winter was severe with alternate thawing and freezing in February and March,

built if the citizens along the proposed route will give \$50,000 toward the enterprise. There is little doubt but that this will be done within the next year. The result will be that about all the trade enjoyed by St. Louis will be turned to Kansas City. The effect will be also to augment receipts at Chicago, as even now about all the grain from that section which now goes to Chicago goes via Kansas City, so that the building of this connection will be of mutual benefit to both points.

Grain commission men are having the blues to quite an extent. Their business at present is almost nominal, some firms hardly paying expenses. It is conceded on all sides that the year will be a trying one to all parties. The scheme for building a new Board of Trade building is fast assuming shape. The plans of the building are already fully under way, and about all the shares have been taken. Before another year Kansas City will probably have the finest grain exchange west of the Mississippi. By this means many firms who have been obliged to put up with ill ventilated and lighted offices will be able to change them for some of the most desirable offices in the city.

The elevators are suffering with the commission firms, and there is less grain to be found in the city than for years. During the past month there have been 291,026 bushels of wheat received here against 798,733 for the corresponding month last year. Corn shows an equal shrinkage, there having been 181,258 bushels received against 417,724 bushels during the August-September month of last year. At present Union Elevator has more grain than any of the other eight, there being a little over 2,000,000 bushels of wheat in store there. The Arkansas Valley Elevator comes next. Under the best circumstances, however, the elevators will not grow fat and sleek from rush of business during this year.

Up to date 2,735,750 bushels of wheat have been received here during 1885, being 51,904 bushels less than last year. Corn shows up to the extent of 2,483,382 bushels as against 5,892,765 for the same time last year. During the past four weeks 19,372 bushels of oats have been received, against 11,799 for the same time during 1884. This makes a total for 1885 of 107,455 bushels, being 145,712 for the same time in 1884. Rye shows up even worse, so far as amount is concerned, but comparatively the figures speak well. The past four weeks 14,083 bushels were handled here against 12,527 for the corresponding month of 1884. Up to date the receipts this year have been 116,536 bushels as compared to 60,057 bushels for 1884, not a very small increase. At present there is in store the following amount of grain: Wheat, 772,619; corn, 81,201; oats, 14,104; and rye, 1,415 bushels. Notwithstanding the limited supply of wheat in this section, prices have followed in the wake of those at Chicago, and have been on the downward move until three days since, when a slight reaction set in. At the beginning of the four weeks under review No. 2 red wheat sold at 80 cents, and to-day prices show a decline of 9 cents, 71 cents being the point reached. The lowest point was reached on Sept. 5, 64 cents being paid. No. 2 soft descended the scale from 93½ cents to 85 cents, 8½ cents decline. The lowest price had for this was on the 8th inst., when it sold at 80¼ cents. No. 3 red also hopped up and down from 65 cents at the opening to 61 cents at the close. The lowest price of the month was reached Sept. 8, when 55 cents was paid.

Corn has followed to a somewhat less extent in the wake of wheat. Starting off No. 2 cash sold at 37 cents, and from there went down to 34¾ cents at the close, a decline of 2¼ cents. The lowest price of the month was on Aug. 31, when 32 cents was paid. No. 2 white declined 2¾ cents, from 38 cents to 35¼ cents. On September 4, 32¼ cents was the price, the lowest of the month. No. 2 cash rye at present sells at 42 cents, and oats at 21½ cents. Sales during the month have been very light, and just at present there seems to be a good deal of timidity among the speculative element as to whether it is wiser to join the bull or bear element. From present appearances the man who sticks to the top of the fence would appear to be the winner in the end.

The information comes from Cherokee, Kan., that a new mill has been started there; that is, a company has been formed which will have one of the finest equipped flouring mills in Southeastern Kansas.

Some of the grain men are airing a rumor that Eastern capitalists are about to buy a large building, originally built for the manufacture of glucose, in the "east bottoms," and convert it into a fine, first-class flour mill. However, nobody could be found to father the tale, and there is probably more shadow than substance to it. As

a matter of fact the flour trade is the poorest of any pursuit in the city at present, owing to the difficulty of getting supplies of grain at rates which will render competition with Northern mills possible. There will probably be no improvement until the next crop of wheat materializes.

The Capitol Elevator Company is a new project just put on foot at Topeka. Noel & Norton are the projectors and fathers of the institution. The former has long been connected with the Topeka Mill and Elevator Company, and the latter with the "Inter Ocean Mill" at that place. It is said that both these gentlemen are hard workers and just the ones to be at the head of such an enterprise and make it win.

Up the river the Leavenworth and St. Joseph mills and elevators are not doing very well, and a good many complaints are sent down to dealers here from time to time, of scarcity of orders and of grain. Their lot is no worse than that of dealers here, and this is all the encouragement that can be tendered them. I understand the Leavenworth mills are about as able to hold their own as any in this section. Rush & Sprague are the oldest and best-known millers in this part of the country; and close on to them comes Mr. Adams, who can handle any mill for all it is worth. He is a miller among millers.

At the beginning of 1885 the total capacity of the city flour mills was 1200 barrels per day. The capacity at present is 1,400 barrels. The "Zenith Mills" have just started up after being idle for three months. In the meantime they have doubled their capacity, and put in a lot of new rollers. This is now probably one of the best mills west of St. Louis. W. P. R.

PUBLIC GRANARIES.

In another page we publish a description of a vast grain warehouse which has lately been erected at Mannheim, on the Rhine, Germany, by Mr. G. Luther, the well-known milling engineer of Brunswick, Germany, which is capable of storing upward of 90,000 qrs. of grain. The granary has been built by the enterprise of a company, at an expense of, we understand, somewhere about £100,000 sterling. Now, if a work of this importance can be carried out in Germany, whose fund of capital, according to the estimates of economists, is by no means the greatest in the world, why should not a similar enterprise be possible in wealthy England, where heavy reserves of money must lie awaiting profitable investment? This country has been called the granary of the world, but if it receives the crops of all lands it is far as yet from having established granaries in any sufficient number wherein grain might be duly graded and securely warehoused. Taking the population of the United Kingdom at thirty-four millions, we may safely reckon that the annual consumption of wheat throughout the United Kingdom is not far from twenty-four millions of quarters. If we ask what facilities we have for storing our grain in large warehouses, where, in return for a moderate rent, it might lie in good order at the service of farmers, millers or others, the answer is none, outside a very few exceptions at Liverpool and elsewhere. Whatever be the cause, certain it is that the far-sighted enterprise which is usually supposed to characterize English men of business, has not yet awakened to the fact that this country is far from possessing the means of properly handling the vast body of grain which is every year grown on her soil or brought to her shores. And yet to possess those means she has only to say the word. The United States has shown us how to build and organize granaries wherein vast stores of wheat may be safely kept till required by the consumer. Other countries are following this lead, and it will be a disgrace to England if she hangs back. The grain warehouse, or "elevator," to use its name throughout the United States, may be regarded as a cereal grain bank, in which the cereal wealth of a nation may be stored like gold or silver in a strong room. And the word bank is no strained metaphor; for the exchange of the stored grain might be made easy by warrants, transferable by indorsement, which would be negotiable instruments, and would tend to make grain a lighter commodity than it is at present. The economic importance of such a change would be very great, as it would certainly tend to draw certain classes, now too often the prey of great usurers, face to face with the banker and legitimate financier. There are many other aspects under which the granary seems worthy of special attention, and among these is the fair presumption that much of the prodigality in the use of

grain now visible in this country would probably disappear if granaries were everywhere at hand. Habits of thrift would probably be encouraged by the presence of the elevator, and in a year of plenty the surplus might be laid up in store instead of being used for food. Again, the provision of extensive grain storage is bound up with political and social questions of the greatest moment. Is it certain that this country will always be mistress of the seas? And what if she ever found herself face to face with a blockade of wheat, just as China had a recent experience of a blockade of rice? The answer is, that her population would be exposed to one of the most appalling famines known to history. Yet by the help of vast well-stored elevators, such a contingency might be robbed of much of its terror, and the country be helped to tide over a fearful crisis.—*The Miller, London, Eng.*

BELTS AS GRAIN CONVEYORS.

[Portion of a paper read before the American Association of Engineers by Mr. T. W. Hugo, of Duluth.]

Belts for conveying grain are more extensively used in the Duluth grain system than in any other place in the world, as far as the writer is aware, and information on such subjects is very limited. These two facts have led to the presentation of this paper in the hope that at least attention might be drawn to this important feature in grain handling.

A description of the various conveyors in use in this place will necessarily include mention of the different elevators, and they will be taken in order according to age.

In 1869 "A" was built with a capacity of 350,000 bushels. It is a single-track, five-car house, having five receiving and three shipping legs and three cleaning machines, and the motive power is supplied by a horizontal non-condensing engine 24"x30", with plain slide valve, cut-off on back, and throttling governor. This engine makes 68 revolutions per minute, and was built by the Northwestern Mfg. Co., of Chicago.

In 1879 an annex was built with a capacity of 210,000 bushels.

In the fall of 1880, elevator "B," with capacity of 1,000,000 bushels, started to receive and ship grain. This is a double-track house for ten cars on a track, with ten receiving and shipping legs, and having originally four, but now six, cleaning machines. A vertical, overhead condensing engine supplies the motive power, making 58 revolutions per minute, the cylinder being 42"x42", with plain slide valve and cut-off on throttling valve.

In 1882 warehouse "C," with a capacity of 1,100,000 bushels, was built on a line with, but 260 feet from "B," the two being connected by conveyors.

In the St. Paul & Duluth Elevator a conveyor belt is used for the purpose of shipping grain into vessels, the elevator being built about 25 feet high, leading from the end of the elevator at an angle of 45 degrees to the dock front, a distance of 300 feet. A horizontal Hamilton-Corliss Engine, 18x30, non-condensing, supplies the power.

In the fall of 1884, elevator "E," with a capacity of 800,000 bushels, was built. It is a double-track house for five cars on each track, with five receiving and five shipping legs, and five cleaning machines. An overhead vertical condensing Reynolds-Corliss Engine, 34x30, making 66 revolutions per minute, supplies the power. Work has begun on warehouse "F," with a capacity of 1,250,000 bushels, to be built in a line with "E," but 250 feet distant from it, and connected by conveyors in a manner but slightly differing from "B" and "C." The upper conveyors will be 160 feet in "E," 250 feet between "E" and "F," and 300 feet in "F," so that there will be 710 feet between centers of shafts at ends. The lowered belt will be 50 feet in "E," and the same as the upper one beyond that, making a total of 600 feet between centers of shaft at ends.

Also in December, 1884, elevator "D" was built, with a capacity of 1,200,000 bushels. This is a double-track house for nine cars on each track, with nine receiving and eight shipping legs, and eight cleaning machines. A steep, compound, condensing, overhead, vertical Cuyahoga Engine furnishes the power. The engine has given excellent satisfaction, and considering the very variable nature of elevator work, the necessity for providing heavy loads at any time without warning, and the surety of running a large engine two-thirds of the time with little more than friction loads, it is the writer's opinion that a properly constructed compound engine is pre-eminently fitted for elevator work, and will prove

itself so, all the factors of fuel, interest, maintenance being counted in.

Work has been commenced on "G," with a capacity of 1,500,000 bushels, to be connected to "D" by belt conveyors, the general arrangements being similar to that already described. The upper belt will be 280 feet in "D," 250 feet between "D" and "G," and 350 feet in "G." The lower belt will be 50 feet in "D," 250 feet between and 350 feet in "G," making a total length between centers of pulleys at ends of 880 feet for the upper conveyor, and 650 feet for the lower.

As stated at the beginning of this paper, its object is to add something to the very small amount of information that is public property on this subject. For that purpose the writer made some tests with a view to ascertain the amount of power required for the different conveyors in "B" and "C," and intended to submit the results to the society, but since this paper was begun his attention was drawn to D. K. Clark's observations in the Manual, on this subject, and these disagreeing very materially from the results of the writer's tests, it was decided to withhold those results for the present until an opportunity presented itself for verification by more extensive experiments. The opportunity will be afforded as soon as "F" and "G" are completed, and in conjunction with the shipping belt of the St. Paul & Duluth Elevator, will present means for eliminating errors possible in a solitary example.

Enough has been said to show that it is a satisfactory method of handling grain, and not grain alone, but there are various articles that could be expeditiously and cheaply handled by this plan, or modifications of it to suit the articles to be handled.

With grain the belts give no trouble whatever, even with belts over 1,300 feet long, and no trouble is anticipated with the long one (1,800 feet) which will be used in "G." The warehouse can be built very much cheaper than a regular elevator, and will be as efficient as a warehouse. Very few extra men are required to attend to it; paying work is made for the motive power when it would otherwise be idle; the rate of insurance lessened; the cost of maintenance is very small, and with larger rollers, or sectional rollers lubricated through a hollow shaft, the friction can be very much decreased. Should it be desired, by a proper belt speed, angles of 45 degrees can be ascended, and the grain thus elevated without bucket on the belts; and experience with the longest belt conveyors in the world has proven their usefulness, their reliability and their economy.

ELEVATOR REBATES AT ST. LOUIS.

Some time ago President Haarstick, of the St. Louis Merchants' Exchange, requested a legal opinion from Overall & Judson, as to the power of the Exchange to make and enforce a regulation requiring each elevator to charge one uniform and open rate of storage to all parties under penalty of being declared irregular for any direct or indirect violation, whether by rebate or otherwise. The opinion received yesterday is very sweeping in its declaration that the elevator men can do just as they please. It points to a former opinion in reference to the Exchange forcing the elevators to give reports as to the condition of grain stored in bulk, and says that so far as the Exchange is concerned the elevators are the private property of their respective owners, and the owners have a right to conduct them in their own way, subject only to the law which fixes the measure of their responsibility to those who transact business with them. In the absence of a law regulating elevator rates, the opinion holds that it certainly is not illegal, and there is no rule of ethics which makes it immoral for an elevator to discriminate between its customers as to the rates charged by it. The opinion also adds, with some emphasis, that in cases which can easily be imagined it might not be even inequitable to make such discrimination. The opinion concludes with the assertion that the Exchange is not invested with the general police power of the state, and it is not within the legitimate scope of its purposes to prescribe what prices shall be paid by any member of the Exchange to another for any commodity or any services rendered, and any regulation adopted by the Exchange, the purpose and effect of which would be to depreciate the value of elevator receipts, solely because they were issued by an elevator which may not have charged one uniform price to all of its customers, would be held by the courts to be invalid. The purpose of such a regulation would be to compel a uniformity of rates by re-

stricting the use and affecting the value of receipts issued by elevators which have other than uniform rates, and the state only has that power.

TRANSFERRING GRAIN.

The new transfer barge built at Cleveland for the Lyman Smith Transfer Company, has been named the Cyclone. The name is somewhat suggestive, as the peculiarly constructed craft is expected to wipe out of existence the monopoly that has so long controlled the elevating business at Buffalo. The new method by which Mr. Smith proposes to reduce the cost of handling grain at terminal points is looked upon by some as an impracticable scheme. The result, however, is awaited with not a little anxiety. From a circular description of the process we quote as follows:

"Smith's pneumatic system is constructed upon an entirely different plan and operated in an entirely different manner from all other methods. Instead of lofty wooden structures filled with inflammable materials and dangerous machinery in which grain is exposed to fire, atmospheric influences, insects, vermin, heating, mixing, shrinkage, stealage, etc., the bins or tanks used in the pneumatic system in which the grain is received and stored are constructed of iron or steel of any convenient size best calculated to meet the requirements of the business to be done. These tanks or bins do not need expensive foundations or the protection of buildings, as they are weather, water and fire proof, and afford perfect protection to their contents from all injurious influences.

"The gravity principle of distributing grain is not used in the pneumatic system, all movements of the grain being accomplished by air-currents, thus obviating the necessity of lifting the grain or storing it at a great height above the ground. The process of moving grain on the pneumatic principle is as simple as, and very similar to, pumping water, requiring very little apparatus and dispensing entirely with the vast amount of complicated and costly machinery required in the belt and bucket conveyor and steam shovel system, and the army of employes necessary to operate and maintain it properly.

"The absence of all inflammable material, dust, machinery in motion, friction, etc., in proximity to the grain, removes all danger from fire and enables insurance to be dispensed with entirely or secured at the lowest rates. Grain handled by pneumatic process through tight pipes and stored in air-tight iron tanks is never exposed to atmospheric influences, scattered around, or wasted in transferring; is removed perfectly clean from cars, boats, pipes and tanks, no leakings from one lot remaining to be mixed with the next. The plan of constructing the storage tanks of varying dimensions, and the perfect manner of separating one lot from another, enables the identity of separate lots of grain to be perfectly preserved without extra trouble.

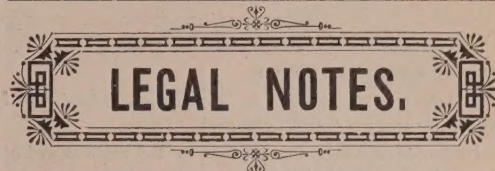
"The tanks are attached to scales in such a way that the weight of the contents may be ascertained at any time, and provided with means by which currents of air of the natural temperature may be freely drawn through the grain as it rests in the tank, rapidly cooling and drying any that is damp or warm, restoring it to proper condition by nature's own process, without possibility of injury.

"Loading and discharging grain from vessels, canal boats, or other places by the pneumatic system dispenses with the services of shovelers, adds nothing to the cost of handling heated grain, cools, dries and improves it without extra trouble, establishes a good ventilation, and changes a dangerous and expensive operation to one of safety and economy. Grain handled and stored according to Smith's pneumatic system is cooled, dried and improved in quality, perfectly protected from atmospheric influences, weevils, moths, bugs, vermin, thieves, fire, etc., its identity maintained, and its preservation for any length of time secured without extra expense.

"Smith's pneumatic system is scientifically adapted to fulfill the various requirements of the grain trade in a superior manner to methods in ordinary use by reason of its reduced cost of construction, smaller operating expenses, absence of all elements of danger from fire; saving insurance charges; dangerous operations and high-priced labor dispensed with; improvement in quality of grain effected and perfect protection afforded to it, at all times, from injurious agencies.

"The rapidity with which grain may be handled pneumatically depends entirely upon the amount of

power used. A transfer car built upon this plan at Detroit can handle two hundred bushels of corn per minute, or transfer the largest-sized car-load, and weigh it in transfer, in five minutes. A transfer barge in process of construction on this plan at Cleveland will have a capacity of transferring grain from vessels to canal boats, or vice versa, at the rate of one thousand bushels per minute."



Warehouseman—Adverse Claimant.

A warehouseman whose lien for storage is not disputed cannot maintain a bill of interpleader to protect himself against the claim of his bailor, and that of a third person, who asserts an adverse title to the goods stored with him as against the bailor, but must defend himself at law. So held by the United States Circuit Court for the Southern District of New York in the case of *Bartlett vs. The Sultan*.

Option Transactions—Note—Bona Fide Holder.

Where a demand note, given as security for a continuing option transaction, but valid on its face, was bought in the regular course of business, and for full value twenty-three days after date, by one who knew that the payees of the note dealt in options, and suspected, but did not know, that it had been taken in an option deal, the United States Circuit Court for the Eastern District of Missouri held (*Mitchell vs. Catchings*) that the note had been negotiated within a reasonable time, and that the purchaser was a bona fide holder without notice.

Sale of Grain—Delivery—Storage—Shrinkage.

G sued A to recover damages for breach of contract to deliver to him 9,000 bushels of corn, which he had bought from him, and had paid for in advance. This corn was bought in March, 1881, and was to be delivered on or before the first of May following. It was not weighed out until the autumn, when it was found that by reason of the shrinkage the corn was short. A claimed that though the corn, at the time of the sale, to the amount of 6,000 bushels, was in his crib, that at that time it was held for G, and that the shrinkage was his loss, and that the 3,000 bushels put in by him (A) subsequently were stored for G. The contract was for "6,000 bushels of good, sound, merchantable corn at Exira, and 3,000 bushels additional in like condition." G claimed as his damages the difference between the contract price and highest market price between May 1 and the commencement of the suit. The court below gave G the judgment asked by him, and A took the case to the Supreme Court, where the judgment was affirmed. Judge Adams, in the opinion, said: "The defendant insists that the corn then in crib was delivered, and that whatever shrinkage occurred afterward should be added to the weight of the corn as found in the fall, and that he should be credited therewith. But, in our opinion, the corn in the crib was not regarded as delivered. There is certainly nothing in the contract to so indicate, but the contrary. The defendant was to deliver '6,000 bushels of good, sound, merchantable corn, in crib at Exira.' The contract did not purport to call for specific corn, but corn of a given quality. It appears to us that the defendant could have discharged his obligations by delivering to the plaintiff any corn of the given quality before the first of May following. If the corn in the crib had been understood by the parties as specifically sold and delivered by the defendant to plaintiff, it would have been unnecessary to describe it as of any given quality. We are well satisfied that the parties understood that the corn was to be weighed. It was to be paid for by the bushel and there is no pretence that the plaintiff had any means of knowing how much there was, except, it may be, approximately by estimate. The defendant made the additions without informing the plaintiff, and when the latter took the corn in the fall there was, necessarily, the weighing to be done. The damages allowed, the price having been paid in advance, were proper."—*Gilman vs. Andrews*, Supreme Court of Michigan.

Over 200,000 Howe Scales have been sold, and the demand is increasing continually. Borden, Selleck & Co., Agents, Chicago, Ill.



The estimate of the wheat yield of Dakota places the amount at 20,000,000 bushels.

A Dakota farmer claims to have raised 17 bushels of wheat in three years from one grain of seed.

Indiana's corn crop is estimated by the State Board of Agriculture at from 140,000,000 to 150,000,000 bushels.

Otis Buswell, of La Grange, Ohio, reports 5,280 double grains of oats from a single seed grown on forty-two heads.

The wheat surplus of Oregon and Washington will be 350,000 tons. The Northern Pacific will carry it East at \$8 per ton.

Out of 900 bushels of wheat of this year's crop, cleaned at a mill at McPherson, Kan., 250 bushels of cheat was taken.

The quality of grain along the Red River, Dak., this year is reported to be much better than any in other part of the territory.

It is generally believed through the territory of Dakota, that the cultivation of flax has much to do with the increase of wild mustard.

The inspected receipts of flaxseed for August in this market were 259,425 bushels, and shipments 97,225 bushels. For the past eight months receipts aggregated 591,425 bushels, and shipments 608,857 bushels.

The crop reports throughout the state of Texas for the year 1885 show the greatest yield that was ever known in the state. Taylor county heads the list with an average yield of thirty-five bushels of wheat per acre.

A St. Joe (Mo.) grain firm has issued a circular which contains the following: "Whom the Lord loveth He chasteneth. It has been a cold summer for the bulls, but next winter the bears will be paying for our coal."

Fifteen samples of wheat tested by a Kansas miller weighed less than fifty pounds to the bushel, and three of which even less than forty pounds. He believes that not one bushel out of fifty will inspect as good as No. 2.

The Commissioner of Agriculture has determined to publish the monthly wheat and corn reports hereafter at noon instead of 4 P. M., as heretofore. The change is in compliance with the petitions of Western Boards of Trade.

The yield of corn in the leading corn-growing states last year was: Iowa, 252,600,000; Illinois, 244,544,000; Missouri, 197,850,000; Kansas, 168,500,000; Nebraska, 122,100,000; Indiana, 104,757,000; total, 1,095,351,000 bushels.

It is thought by the United States Commissioner of Agriculture that with the increased acreage in corn over last year, the splendid yield which is now assured will give the South not less than 50,000,000 bushels of corn more than last year.

The choice grades of Indiana wheat have of late been shipped to St. Louis, Mo., and the inferior grades to Detroit, Mich. Rates from Indianapolis to St. Louis were 5½ cents per 100 pounds; from Indianapolis to Detroit, 6 cents per 100 pounds.

For the year ended Sept. 1, 1885, 32,152,840 bushels of grain have been received at Minneapolis, Minn., the shipments from same place being 5,584,340 bushels, against 23,314,567 bushels and 3,132,849 bushels respectively, during the previous year.

Dr. E. N. Clark, of Beloit, Wis., secured twenty-eight kernels of Tennessee corn at the New Orleans Exhibition, which he planted on May 16. The little patch of corn is now like a forest, some of the stalks measuring nearly fourteen feet in height, and bearing large ears of corn.

From July 1 to Aug. 27, 1884, St. Louis received 4,940,458 bushels of wheat, while from July 1 to Aug. 27, 1885, she received only 2,853,384 bushels, and of that amount 1,084,400 bushels were from Indiana, while last year no Indiana wheat was received. Nevertheless, the elevators of St. Louis now hold 2,112,000 bushels of No. 2 wheat, the total amount in store being 2,500,000 bushels.

Of seventeen cars received in one day only ten were from Western points.

Chicago receipts for August aggregated 394 cars winter and 1,568 cars spring wheat, 10,434 cars corn, 3,815 cars oats, 501 cars rye, and 209 cars barley. For August last year receipts were 6,313 cars winter and 1,727 cars spring wheat, 11,136 cars corn, 4,135 cars oats, 1,307 cars rye, and 272 cars barley.

Says the Cincinnati *Times-Star*: "The schemers for an immense appropriation for the Upper Mississippi are early at work on their plans to gain the favor of Congress and get the key to the treasury. It is fortunate, perhaps, that this key has a string tied to it which runs into the White House."

It is curious to note the means which some people will employ to gain their end. Not long since a public weigher watched a load of hay that had just tarried upon his scales. Presently it stopped, and from it emerged two well-known town loafers, who had been concealed within it to increase the weight a few hundred pounds.

The following table is a valuable curiosity, and is well worth preserving:

HIGHEST AND LOWEST PRICES FOR TWENTY-SEVEN YEARS.

	Highest.		Lowest.
Wheat—May, 1867	\$ 2 85	July, 1859	\$0 50
Corn—Nov., 1854	1 40	Sept., 1861	0 20
Oats—June, 1867	0 90	June, 1861	0 12½
Pork—July, 1864	43 00	Dec., 1878	6 02½
Lard—Sept. 1865	30 00	Aug., 1879	5 30

At Calvin, Cass Co., Mich., eleven acres of land were devoted to wheat for thirty-two years, averaging from seven to ten bushels yearly per acre. Their owner, Calvin Butcher, "had a vision" that a year's rest for that field would be a christian act; so he summer fallowed it last season, and in the fall sowed wheat again, which now has yielded a crop of 32.9-11 bushels per acre.

Experiments made during the past two years to introduce a few of the early varieties of American corn into some of the Austrian provinces have proved very successful in Dalmatia. Not only is the yield twice that of the home product, but ripening earlier, the American corn can be harvested early enough to save it from the annual inundations which so frequently destroy the Dalmatian corn.

Some weeks ago an agent for a combined corn sheller and feed grinder got permission of a man named Hughes, of Albion, Howard Co., Iowa, to send him a machine for trial. But the sleek agent got the guileless Albino to sign his name on a blank. A short time afterward Mr. Hughes received notice from Dubuque, Iowa, that a note signed by him for \$170 would be sued unless paid at a certain date.

A singular variety of corn, called "Indian Squaw," the seed of which was obtained at the New Orleans Exposition, has been grown this year in the neighborhood of Milledgeville, Ga. The ear is hardly of average length, but it is well filled with large, broad grains of an almost black outside color, while the inner is of remarkable whiteness. It has not been ascertained yet whether this variety is of a peculiar quality.

The average wheat crop of the United States for the last six years, not including this year, was 445,489,000 bushels, and the average exports in wheat and flour from those crops were equal to 145,058,000 bushels of wheat. For the last year the crop was 88,489,000 bushels, and the exports 16,044,500 bushels below the average. The decadence of our export in breadstuffs is therefore less serious than many are inclined to assume.

The report of the Ohio State Board of Agriculture, based on returns made Sept. 1, from 981 township correspondents, gives the following estimates: Wheat probable total bushels, 21,707,763, compared with a five years' average of 41,005,249. Oats, probable total bushels, 42,051,030, against a five years' average of 21,763,280 bushels. This crop is the largest on record. Corn, probable total bushels, 112,192,744 against a five years' average of 97,348,891. Rye, probable total 87 per cent. Barley, probable total 75 per cent. Potatoes, probable yield per acre 87 bushels. Tobacco, area compared with five years' average, 91 per cent. Tobacco, condition 89 per cent. Clover for seed, area 82 per cent.; condition 52 per cent. Apples, compared with full crop, 43 per cent. Pears, compared with full crop, 86 per cent. Grapes, compared with full crop, 69 per cent. Pastures, condition compared with good average, 82 per cent. Corn will probably be the largest except in 1878, unless severe frost comes very soon.

THE HOPPER SYSTEM OF WEIGHING.

The system heretofore in universal practice of weighing grain shipments on track-scales while in transit through Chicago for Eastern points has been accompanied by so many inaccuracies in weight and other perceptible losses in being transferred from one line of cars to another, that an improvement in free on board shipments that would give a measurable degree of accuracy has long been sought for by the grain receivers and shippers of this city. At a recent meeting of this body a committee of investigation made a report in which they favored the advantages secured by the hopper scale system of weighing and transferring grain in use on the Lake Shore & Michigan Southern Railroad at Englewood. The system has now been in existence about a year, and the special advantage claimed for it is that it gives prompt and accurate weights to be used as a basis for purchase and sale, and creates a source of responsibility for any claims of shortage or other mistakes that may be made. The track scale weights having been made final by the Chicago Board of Trade, it has cut off all remedy for collection of claims on account of improper weighing made by Eastern buyers, and has naturally caused a great amount of dissatisfaction. This difficulty, as already stated, is avoided by the hopper system, and its superior merits have received warm expressions of praise from a large number of New England dealers.

As there is a strong possibility of its more extensive use in the future, and as it marks an important departure from old-fashioned methods, a brief description will doubtless be timely. The main tracks upon which the freight cars are switched are elevated at a height of thirty feet, and are reached by a trestle approach about 1,000 feet long. The frame building which incloses the platforms or floors is about 190 feet long, and gives room for ten freight cars at a time, five on each track. In the space between the tracks five hoppers are arranged, capable of holding about a carload of 1,500 bushels. The contents of each car are unloaded directly into the hopper in about six minutes, the whole five being emptied at one and the same time. In the case of oats the time averages somewhat longer. As soon as the car is unloaded, an attachment to which a flag is arranged notifies the deputy weighing inspector on the floor below of the fact, who takes the weight from the scales of which the hopper forms a part. This being concluded, a lever draws the slide from an opening in the center of the hopper, and the grain passes through a large funnel which extends directly into the body of the Eastern freight cars that stand on the ground track below. The same process follows with the five cars on the other track as soon as the grain has passed from the hopper, and the empty cars are immediately drawn out and their places supplied by others. In order to secure the utmost accuracy, the scales are built on stone foundations, and are thus rendered secure from settling, making it almost impossible for them to get out of line. In order to guard against any variations produced by climatic causes, the scales are carefully adjusted by the inspector every morning. The mechanism is a very simple one, and presents certain features whose superior advantages most be apparent to the most inexperienced. The average number of cars unloaded an hour is about fifteen, which shows a decided gain in time over the old way of shoveling from one car to another. The arrangement of the apparatus is such that there is but little or no waste; and, last of all, being inclosed, the inclemency of the weather at any season cannot interfere with the operation.

An important consideration of this new system is its cheapness, the charge for weighing being only 70 cents per car. This circumstance is likely to have a strong influence in its relation to the subject of terminal charges. The statistics taken from the report of the Railroad and Warehouse Commissioners for the crop year of 1884 shows that more than one-half of the grain sold was by sample, the remainder being from the elevators. It is claimed that the proportion in favor of sample sales will be materially increased during the present year, inasmuch as the hopper scale system gives as accurate a degree of weights as is obtained from the elevators, and the facilities for transacting a large volume of business are equal in other respects.

The Howe Scales have all the latest improvements. It is true economy to buy the best. Borden, Selleck & Co., Agents, Chicago, Ill.

LATE PATENTS.

Issued on July 7, 1885.

[The patents under this date were omitted in the regular order because of the delay in issuing the *Official Gazette* for this date.]

ANIMAL POWER.—Ezekiel J. Yarbrough and John M. Kyker, Buras City, Tex. (No model.) No. 321,876. Filed Dec. 17, 1884.

BAG FILLING, WEIGHING AND REGISTERING MACHINE.—John R. Campbell, Troy, Minn. (No model.) No. 321,793. Filed April 27, 1885.

FANNING MILL.—Walter S. Wood, Kalamazoo, Mich. (No model.) No. 321,563. Filed Feb. 3, 1885.

APPARATUS FOR TRANSFERRING GRAIN AND THE STORAGE THEREOF.—Lyman Smith, Kansas City, Mo. (No model.) No. 321,769. Filed Feb. 26, 1885.

RIDDLE FOR EXTRACTING COCKLE AND WILD PEAS FROM GRAIN.—William Atwell and Robert Floeter, Chatham, Ont., Can., assignors of one-third to Manson Campbell, same place. (No model.) No. 321,881. Filed April 11, 1884. Patented in Canada Feb. 4, 1884. No. 18,614.

GRAIN SCALES.—Alfred J. Buil, St. Louis, Mo. (No model.) No. 321,481. Filed April 27, 1885.

Issued on Aug. 11, 1885.

CAR STARTER.—Joshua C. Price, Taylorsville, assignor of one-half to Augustin W. Wright and Freeman P. Roach, Chicago, Ill. (No model.) No. 323,962. Filed May 26, 1885.

SPIRAL CONVEYOR.—William C. Marr and Nahum C. Marr, Onawa, Iowa. (No model.) No. 323,944. Filed June 18, 1885.

BLAST REGULATOR FOR FANNING MACHINES, ETC.—C. Dickinson, Chicago, Ill. (No model.) No. 324,242. Filed Nov. 25, 1884.

GRAIN DRIER.—Heinrich Stollwerck, Cologne-on-the-Rhine, Prussia, Germany, assignor to Gebr. Stollwerck, same place. (No model.) No. 324,182. Filed Jan. 8, 1885. Patented in England Dec. 11, 1884. No. 16,313.

GRINDING MILL.—George K. Smith, Chicago, Ill., assignor to the H. C. Stover Implement Co., same place. (No model.) No. 324,181. Filed May 16, 1885.

GRINDING MILL.—Walter C. Westaway, Beloit, Wis. (Re-issue.) No. 10,634. Filed June 29, 1885. Original No. 309,326, dated Dec. 16, 1884.

FLAXSEED CLEANER.—Thomas R. Rosier, San Jose, Cal. (No model.) No. 324,275. Filed March 19, 1885.

WAREHOUSE TRUCK.—George F. Armstrong, Philadelphia, Pa. (No model.) No. 324,066. Filed Dec. 19, 1884.

Issued on Aug. 18, 1885.

DRIVE CHAIN.—Joseph J. Seldner, Baltimore, Md. (No model.) No. 324,734. Filed Dec. 4, 1884.

GRAIN DRIER.—Jesse R. Sittler, Axtell, Kan. (No model.) No. 324,737. Filed Aug. 25, 1884.

GRAIN SEPARATOR.—George Brooks and Solomon B. Pike, Detroit, Mich. (No model.) No. 324,454. Filed June 12, 1884.

GRINDING MILL.—Mortimer C. Cogswell, New York, N. Y. (No model.) No. 324,363. Filed Aug. 25, 1884.

AUTOMATIC GRAIN WEIGHER.—Gabriel J. Gibbons, Haven, Kan. (Model.) No. 324,373. Filed March 23, 1885.

Issued on Aug. 25, 1885.

VENTILATOR FOR GRAIN BINS.—Benj. F. Harrell, New Marion, Ind. (No model.) No. 325,170. Filed Sept. 2, 1884.

WILD PEA AND OAT SEPARATOR.—James M. King, Rochester, Minn. (No model.) No. 325,093. Filed Jan. 5, 1885.

Issued on Sept. 1, 1885.

DRIVE CHAIN.—George S. Briggs, Rockford, Ill. (Model.) No. 325,494. Filed May 13, 1885.

ELEVATOR BUCKET.—Christ Banker and John H. Roberts, Pittsburg, Pa., said Banker assignor to William M. Babbott, same place. (No model.) No. 325,478. Filed Oct. 15, 1884. Renewed Aug. 3, 1885.

AUTOMATIC WEIGHING MACHINE.—John Stevens, Neenah, Wis. (No model.) No. 325,282. Filed Aug. 29, 1884.

Issued on Sept. 8, 1885.

CAR STARTER.—Adolf Kruzner and Florian Teutschert, Vienna, Austria, Hungary. (No model.) No. 326,043. Filed May 18, 1885.

CYLINDER FOR CORN SHELLERS.—John H. Gilman,

Ottawa, Ill. (No model.) No. 325,671. Filed Aug. 20, 1884.

AUTOMATIC WEIGHING MACHINE.—Valentine Webber and James R. Harrison, Princeville, Ill., assignor of one-third to William Harrison, same place. (No model.) No. 326,074. Filed March 14, 1885.

GRAIN TRADE OF THE UNITED STATES.

[From the Baltimore Journal of Commerce.]

The crop of wheat produced and harvested in the United States in 1884 yielded, as per the official figures of the Department of Agriculture at Washington, 512,753,900 bushels; the area of acreage given being 39,475,885, and averaging about thirteen bushels per acre. This was the largest crop ever grown in our country, and after making ample allowance from it for home requirements, independent of any surplus that may have been left over from the previous year's crop, there was available for export upward of 185,000,000 bushels.

Europe, having also been favored with good average crops, as well as India and other surplus-producing countries, caused a lower range of prices than had before for many years been known—making the business, to meet foreign competition, very unsatisfactory to all interested.

The aggregate exports for the year ended Aug. 31 from all the ports was of wheat 73,500,000 bushels, and of flour 9,150,000 barrels—reducing latter to wheat makes a total of 114,675,000 bushels, as compared with the total of the previous year 105,245,000 bushels, which was out of a crop upward of 90,000,000 bushels less than that of 1884. Of the exports of the past year 38,000,000 bushels wheat and flour reduced went from the Pacific, and 76,675,000 bushels from the Atlantic ports. From these figures it is quite evident the surplus remaining over from the crop of 1884 is not less than 70,000,000 bushels.

The superabundant growth of wheat in 1884, resulting in such unprecedented low prices that many farmers were induced to turn their attention to other products, which led to a reduction in the area planted last fall of about ten per cent., and the severity of the winter throughout the Western states diminished the growth of the crop harvested in 1885 as compared with that of 1884 fully 150,000,000 bushels, the entire yield of winter not exceeding 220,000,000 bushels, and with a generally accepted spring crop of 140,000,000 bushels, gives as the entire crop of 1885 about 360,000,000 bushels, which, with 70,000,000 bushels or more remaining over from the previous year's crop, makes our total supply for the ensuing year 430,000,000. Deducting 325,000,000 for home requirements, which is a fair allowance, we have an exportable surplus, should it be wanted, of 155,000,000 bushels before the harvest of 1886.

Mr. E. H. Walker, statistician of the New York Produce Exchange, makes the available surplus for export for 1885-86 about 115,500,000 bushels, provided the crop prospects for 1886 are of a favorable character.

The present outlook of the export trade is not at all encouraging. Stocks of wheat and flour in the principal importing countries in Europe are large, and their home crops said to be of fair average, making them for the time independent, and until their reserves later on need replenishing, shipments from the United States will necessarily continue light.

The corn crop of 1884 proved the largest ever grown, the government official report making it 1,795,000,000 bushels, out of which there were exported about 55,000,000 bushels, but little more than 3 per cent.

The present crop to be harvested covers an acreage of 74,000,000, being 9 per cent. increase over the previous year, and promising a yield equal to the most favorable crop years, which averaged from 25 to 29 bushels per acre. Assuming 26 bushels for the average this year it would make the crop 1,924,000,000 bushels, offsetting, to a large extent, the reduced wheat crop.

The reserve of wheat and flour in so vast an area as comprises the United States must of necessity be very vague and indefinite; but assuming the crop estimates each year as approximately correct, and deducting therefrom what is recognized by experience as ample for home consumption for bread, seeding and manufacturing purposes, and the export foreign of wheat and flour, the residue can very appropriately be classed as the country's reserve.

On this hypothesis we submit the following:

	Bushels.
1882 crop	504,185,470
1883 " "	421,089,100
1884 " "	512,000,000
Total three years	1,437,274,570
Deduct for three years home consumption an average of 325,000,000 each	975,000,000
	462,274,570
Deduct exports wheat and flour:	
1882	128,598,075
1883	127,031,697
1884	105,243,830
	360,873,602
Add crop 1885	101,397,968
	360,000,000
	461,397,968
Deduct from home consumption 1885-86	325,000,000
Balance available for export 1885-86	136,397,968

In the above we have not considered any surplus that may have been on hand at the end of the crop year Aug. 31, 1882.

We append statistics showing the aggregate acreage

and average yield of wheat per acre from 1872 to 1885 inclusive, the figures for the latter year being estimates, but which we think will prove, when more authentically known, rather under than above the facts; also tables showing exports of wheat, flour and corn from the United States each year from 1872 to 1885:

WHEAT, ACREAGE, YIELD, ETC.

Years.	No. of acres.	Yield of wheat bushels.	Average yield per acre
1872	30,858,359	349,997,100	11.9
1873	32,151,676	381,251,700	12.7
1874	34,967,027	309,102,700	12.3
1875	26,381,512	292,136,000	11
1876	27,627,021	89,256,500	10.4
1877	27,277,546	364,194,147	13.9
1878	32,108,560	420,122,400	13.1
1879	3,430,032	159,591,093	13.8
1880	37,986,717	498,49,888	13.1
1881	37,709,020	380,280,000	10.1
1882	37,007,194	304,185,470	13.6
1883	35,435,593	421,089,100	11.5
1884	39,475,885	512,753,900	13
1885	39,528,297	360,000,000	10.1

The exports of wheat and flour from the United States since 1872 have been (flour reduced to bushels in total):

Years ended Aug. 31.	Wheat, bushels.	Flour, bbls.	Total bushels.
1872	24,938,690	2,870,070	39,285,040
1873	43,913,430	2,658,373	57,205,295
1874	70,819,684	4,206,731	91,383,339
1875	56,013,393	3,989,043	75,959,150
1876	50,022,578	3,899,718	69,551,368
1877	38,226,620	3,132,874	58,890,990
1878	90,351,408	4,308,527	111,873,043
1879	131,632,577	5,609,485	160,165,560
1880	156,213,778	5,565,140	187,556,908
1881	131,575,988	7,908,176	170,140,280
1882	102,130,811	5,881,392	128,598,075
1883	87,219,119	8,810,504	121,031,697
1884	69,124,555	8,028,064	105,243,839
1885	73,500,000	9,150,000	114,675,000

The corn crop now in the fields to be harvested promises to be the largest ever produced in our country, and will afford a greater surplus for export the ensuing crop year.

The acreage and production of corn since 1882 have been:

Years.	No. of acres.	Yield, bus.	Av. yield per acre.
1872	35,526,836	1,092,719,000	30.7
1873	30,197,118	932,274,000	23.8
1874	11,636,918	850,118,510	20.7
1875	41,841,371	1,321,069,000	29.4
1876	40,033,361	1,281,827,500	26.1
1877	50,369,131	1,342,355,000	26.6
1878	51,585,000	1,388,218,750	26.9
1879	62,308,869	1,732,909,816	29.2
1880	62,317,812	1,717,131,543	27.6
1881	61,252,025	1,194,916,000	18.6
1882	65,539,546	1,617,025,516	24.6
1883	68,301,889	1,551,668,895	22.7
1884	69,682,780	1,795,000,000	25.6
1885	74,000,000	1,924,000,000	26

INDIAN CORN EXPORTED ANNUALLY SINCE 1871, FOR YEAR ENDING JUNE 30.

Years.	Corn, bus.	CornMeal, bbls.	Total bus.
1872	34,491,600	808,840	36,025,850
1873	38,541,930	403,111	40,559,485
1874	34,434,606	387,807	35,373,641
1875	28,858,420	291,654	30,316,390
1876	49,493,572	354,240	51,294,772
1877	70,860,983	447,907	73,100,718
1878	85,461,098	432,753	87,614,863
1879	86,296,232	397,160	88,282,052
1880	98,169,877	850,619	99,222,912
1881	91,308,175	434,989	94,083,140
1882	43,181,915	288,963	44,629,625
1883	47,459,142	267,207	48,725,177
1884	41,700,061	215,512	42,026,631
1885	52,437,833	255,251	53,914,093

NEW GRAIN RULES.

The Northwestern Road gives notice that hereafter the following rules will apply on grain to be cleaned in transit for Milwaukee or Chicago: All agents on the Winona & St. Peter Railroad and the Dakota division and branches, except Alcester to Esmond, inclusive, will be allowed to way-bill wheat, flax-seed, oats, rye and barley, to the following stations: Aurora, D. T.; Rochester, Minn.; St. Charles, Minn.; Winona, Minn., to be cleaned in transit for Chicago and Milwaukee. Such freight must be way-billed to the cleaning station at the billing rates from forwarding station to Chicago or Milwaukee, and freight charges must be paid through at the cleaning station. All shipments must be weighed before being unloaded at the cleaning station, and an equal amount of the same kind of grain will be forwarded free from cleaning station to destination. The cleaning in transit account at the cleaning station, in order to get the benefit of the free transportation from cleaning station to destination, must be evened up on the first day of August of each year. Wheat, flax-seed, oats, rye and barley from the cleaning stations may be way-billed to Chicago or Milwaukee (whichever station the grain was originally billed to be cleaned in transit for) free, if shipped within thirty days after receipt of the same at cleaning station.

P. McLaughlin succeeds McLaughlin & Williams, grain commission merchants, Kansas City, Mo.

ELEVATOR AND GRAIN NEWS

Merryfield, Dak., is to have a 20,000-bushel elevator.

East Mississippi has raised a splendid corn crop this year.

J. H. Kirker, of Belleflower, Ill., is enlarging his elevator.

Two new elevators will probably be built at Utica Minn.

W. L. Luce is building a new elevator at Kenyon, Minn.

A. G. Butler is about to build an elevator at Bellevue, Mich.

J. M. Jones, grain dealer, Wellsburg, W. Va., has assigned.

Another large elevator will probably be built in Dallas, Tex.

Warrenburg, Mo., has three elevators and three flouring mills.

The new elevator at North Topeka, Kan., has been iron roofed.

German millet is being extensively cultivated in Wisconsin Co., Kan.

Packard's new elevator, at Creighton, Neb., will hold 20,000 bushels.

R. Denton & Son, Anita, Iowa, have sold out their grain business.

The weekly consumption of wheat in Chicago is about 100,000 bushels.

Millet is going to make a most excellent crop in Lyon Co., Kan., this year.

H. M. Power is building an elevator at Whitewood, Northwest Territory.

Eben Ryder & Co., grain dealers of this city, have dissolved partnership.

H. E. Benton, Holyoke, Mass., has sold out his grain business at that place.

Rodney J. Hardy & Sons, grain dealers, Boston, Mass., are said to have failed.

Davis & Harrison, grain dealers, Anita, Iowa, are about to dissolve partnership.

Lewis & Farley succeed A. B. Lewis in the grain business at Dubuque, Iowa.

Corn in Montgomery Co., Ind., is said to yield sixty-five bushels to the acre.

The North Star Elevator Co. will build an elevator at Elliot, Dak., this season.

The skating rink at Sleepy Eye, Minn., has been converted into a warehouse.

Corn fields near Indianapolis, Ind., have been greatly damaged by grasshoppers.

Bettleheim & Waugh, grain dealers, Brookfield, Mo., have dissolved partnership.

Yankton, Dak., grain buyers report but little wheat seeking market at that point.

Davis & Chapman succeed M. H. Davis in the grain business at Prairie City, Iowa.

Van Dusen & Co., of Austin, Minn., have commenced on their large grain warehouse.

Allyn & Horton, lumber and grain dealer, at Modesta, Ill., are closing out their business.

The residence of J. W. Helm, a grain dealer of Danville, Ill., was recently burglarized.

About 50,000 bushels of new wheat have been received at the Grandin Elevator, Fargo, Dak.

Z. D. Mathus, of Shenandoah, Iowa, has sold out his grain business to Bennett & Schenck.

The Central Elevator and Elevator "A" 2, of Minneapolis, Minn., have taken out licenses.

The wheat harvest in the vicinity of Fort Morgan, Col., averages sixty bushels to the acre.

The elevators in the vicinity of Morris, Minn., are receiving large quantities of new wheat.

North Dakota is flooded with agents of commission parties in Duluth, soliciting shipments.

W. M. Root, grain commission merchant, Newark, Ohio, has sold out to J. H. Richardson.

Spring wheat in the vicinity of Carsonville, Mich., is reported a failure on account of the rust.

C. D. Bush and E. K. McCarthy, members of the Open Board of Trade, Chicago, Ill., failed, Aug. 31.

A. Mackie & Co., grain and commission merchants, of Chicago, Ill., suspended business on Aug. 31.

The new elevator of the McGregor Bros., at Frontenac, Minn., will have a capacity of 30,000 bushels.

Chanslor Bros. & Co., grain commission merchants of Kansas City, Mo., have dissolved partnership.

E. L. Brown, of Minneka, Minn., has taken charge of a warehouse for Brooks Bros., at DeGraff, Minn.

An elevator company has been organized to buy and ship grain at all river landings between Pierre and Bis-

marck, Dak. Elevators will be built this fall at Fairbanks, Tibeau, Scranton and La Grace.

Diffenbaugh's new elevator at Washington, Kan., is now completed and ready for business.

Mr. Elmer Forbes, of Topeka, Kan., is now running the elevator he lately bought at Bellview, Kan.

There are eight grain buyers in Luverne, Minn., and the competition is a great benefit to the farmers.

The oats crop around Lander, Wyoming, yields thirty bushels to the acre, and wheat thirty-five bushels.

Messrs. H. L. Millard & Co., millers at Sterling, Rice Co., Kan., are putting up a 150,000-bushel elevator.

The partnership existing between Gregory, Wheeler & Co., grain dealers, Chicago, Ill., has been dissolved.

The new Mayville (Minn.) elevator is progressing rapidly, and will be a fine building when completed.

The corn crop in the Cedar Valley, Neb., is said to be one of the best ever raised in that part of the country.

James Holes, of Hunter, Dak., is erecting a 20,000-bushel elevator on his farm to be run by horse power.

The new elevator of Basset & Co., at Ellendale, Dak., now completed, has a capacity of about 40,000 bushels.

During the first twenty days of August over 54,000 bushels of oats were shipped from Argenta, Macon Co., Ill.

Three hoodlums were recently arrested at Armourdale Kan., charged with stealing wheat from the new elevator.

The newly completed Sawyer Elevators, at Tower City and Buffalo, Dak., have a capacity of 35,000 bushels each.

The best yield of sod wheat harvested this year in Kingman Co., Kan., turned out fourteen bushels to the acre.

A New York paper says that India wheat is offered in London as far ahead as next February at 87 cents a bushel.

Aberdeen's (Dak.) new elevator will be finished and in operation by Sept. 15. The capacity will be 25,000 bushels.

Armourdale (Kan) Elevator "C" was transferred Sept. 1 by J. G. Campbell and wife, the consideration being \$35,000.

W. O. Dodge, for many years a resident of St. Paul, Minn., has gone to Minneapolis to engage in the grain business.

The grain commission firm of Gentry & Woods, at Kansas City, Mo., has been dissolved. Richard Gentry succeeds.

The elevator owned by Hyke & Fox, at Luverne, Minn., has been sold by the receiver, J. L. Helm, to F. A. Hyke for \$2,435.

Lanier & Co., Memphis, Tenn., are building a warehouse and elevator in connection with their new mill at that place.

A new elevator is being built at Milford, Minn., on the Winona & St. Peter Railway, between New Ulm and Sleepy Eye.

John Thomas Porter and others, of Montgomery, Ala., will erect a 200,000-bushel grain elevator at that place immediately.

Tighe Bros., of Bradshaw, Neb., have added some machinery to their elevator bought of the Frost Mfg. Co., Galesburg, Ill.

Ten car loads of wheat from points west pass through Mitchell, Dak., daily, over the Chicago, Milwaukee & St. Paul Road.

A great deal of poor wheat is reported from Waseca Co., Minn. The elevators are not taking in any of this year's crop yet.

The first spring wheat of this season was marketed at Pipestone, Minn., on Aug. 18. It was graded No. 2 and brought 63 cents.

Work on the new elevator at Graceville, Minn., was commenced some time ago. It will be of about 30,000 bushels' capacity.

W. G. Wharton and other parties have purchased ground at Birmingham, Ala., on which to build a \$40,000 mill and elevator.

A gang of men are building an elevator at Clarkfield, Yellow Medicine Co., Minn., on the Minneapolis & St. Louis Railroad.

The Winona & St. Peter Elevator, being built at Winona, Minn., will be completed by about Oct. 15; the cost will be \$80,000.

A crew of seven men have gone out to Nicollet Station, Minn., to build a grain warehouse for Louis Schnell, of St. Charles, Minn.

Barnett & Record, of Minneapolis, Minn., are about to build a 30,000-bushel circular elevator at Casino, Dak., for Kelsey & Gooding.

R. D. Hubbard & Co. of Mankato, Minn., have purchased the elevator at Eagle Lake, Minn., formerly owned by H. Cummins.

Frank Graham, for several years past an extensive grain dealer in Kewanee, Ill., has absconded, leaving a large number of creditors.

The Farmers' Union Elevator, which is to be built at Groton, Dak., will be completed in time, it is stated, to commence handling the crop.

David Gamble, near Marshall, Minn., has sold his farm on rather novel terms. The consideration is that 1,000 bushels of No. 2 wheat shall be placed by the purchaser,

C. W. Pomeroy, in the Marshall Elevator at Gamble's disposal each year for four years, when Pomeroy is to have a warranty deed.

The old commission house of T. B. Chamberlain & Co., of St. Louis, Mo., has made an assignment. Assets, \$15,000. Liabilities not known.

W. T. Cooper has withdrawn from the grain commission firm of Alston, Crowell & Co., of Memphis, Tenn. The firm name remains the same.

W. H. Baker is to take charge of Van Dusen's elevator at Sleepy Eye, Minn., the coming season, in place of J. D. Jones, who goes to Washington.

Crop reports from the vicinity of Grand Forks, Dak., show the yield to be far below the average, blight having affected the grain to a great extent.

The L. C. Porter Milling Company, of Winona, Minn., are contemplating the erection of an elevator at Sleepy Eye, if a proper site can be secured.

Over 25,000 bushels of wheat had been received at the elevators of Ellendale, Dak., up to Sept. 4, of which a large portion was graded No. 1 hard.

Ulrich Busch, of Chicago, Ill., has taken out a building permit to erect an elevator, 41x61 feet, on Cherry street. The cost will be about \$12,000.

The yield of grain in the vicinity of Grand Forks, Dak., proves to be far below the average. Along the Red River the quality of the grain is better.

The new distillery of Gus Sessinghaus, St. Louis, Mo., will make a trial start about Sept. 15. The structure, complete with machinery, cost \$50,000.

The Farmers' Elevator and Milling Company, of St. Lawrence, Hand Co., Dak., will build a new 20,000-bushel elevator, to be completed Oct. 1.

Hill & Kinsey, grain dealers of Roberts, Minn., are putting up a new elevator at Jewett's Mills, St. Croix Co., Wis., on the line of the Wisconsin Central Road.

Mr. Blair, of Eyota, Minn., has commenced to build an elevator at Chatfield, Minn. This will give Chatfield four elevators and three firms to handle grain.

K. K. Liguin, of Britt, Iowa, is making quite a number of improvements in his elevator, and gets all his supplies from the Frost Mfg. Co., Galesburg, Ill.

Lee & Herrick, of Crookston, Minn., proprietors of the "V. Lley Mill," are building an elevator for their own use, which will have a capacity of 50,000 bushels.

The firm of Walker and Co., grain commission, at Toledo, Ohio, suspended on Aug. 19. The alleged cause was the refusal of the bank to accept their paper.

The (former) Pillsbury & Hulbert Elevator, at Barnesville, Minn., is being removed from the north end of the town to a track 1,800 feet long, south of Market street.

Moulton & Sons, the contractors for the mammoth elevator at Washburn, Wis., have let contracts for 3,000,000 feet of lumber and timber to go into the structure.

Wheat is being marketed freely along the Fargo Southern Railroad, in the Red River Valley, Minn. At some stations the receipts are 1,800 and 2,000 bushels per day.

W. A. Strong, President of the Joliet (Ill.) Elevator and Gas Light Company, has purchased two large stores from J. P. Stevens, of Joliet, Ill., for the price of \$33,000.

On the farm of Elliott Bros., a short distance from Aberdeen, Dak., a load of oats was recently drawn across a stubble field, which, when threshed, measured 105 bushels.

The Northern Pacific Elevator Company commenced the erection of an elevator at Cheney, Wash. Ter., on June 26, the first one in the territory, with 75,000 bushels' capacity.

The bnanza wheat men of the Red River Valley are alarmed at the new departure of the Duluth elevators in grading the majority of their wheat as Northern instead of No. 1 hard.

J. H. Dole & Co. have just started up their new elevator at Abingdon, Ill., and are well pleased with it. All the machinery was put in by the Frost Mfg. Co., Galesburg, Ill.

John Brownlee, of Little York, Ill., has just completed one of the best elevators in that section, and has purchased all his machinery from the Frost Mfg. Co., Galesburg, Ill.

The supply of wheat brought to Montreal this season, chiefly from the Northwest, by the Canadian Pacific Railway, for shipment to England, is keeping up remarkably well.

Turner & Bellamy, of Nashua, Minn., are said to have completed arrangements with the Minneapolis & Northwestern, whereby they will control the grain trade along the line of that road.

The Union Elevator Company, of Joliet, Ill., has been incorporated with a capital stock of \$70,000. Incorporators are Edward C. Hagar, F. W. Woodruff, S. B. Reed, C. Knowlton and W. A. Strong.

Work on the Capital City Elevator, Topeka, Kan., is being pushed on vigorously. When completed, this elevator, which is backed by a strong company of capitalists, will be one of the largest in the West, with a capacity of 250,000 bushels.

The Colorado Milling & Elevator Co. has been incorporated at Denver, Col., with a capital stock of \$1,000,000, and bought out the flour mills of Burnell, Cusinan & Co., C. R. Davis, J. K. Mullen & Co., and Crescent Mill-

ing & Elevator Co., all of Denver; B. F. Hottell, Fort Collins; O. F. Barber, Golden; B. F. Johnson and Model Mill & Elevator Co., Greeley; Denio & Barr and Dickson & Webb, Longmont.

What is needed most in Lathrop, Mo., is a grain elevator and feed mill, the principal crop raised in that community being corn, of which there is going to be a great abundance this year.

Indians at Devil's Lake Agency have raised 60,000 bushels of wheat this season. The wheat will be manufactured into flour at the "Agency Mill" and turned over to the government at \$2 per hundred.

McClure & Griffin are building a steam elevator at Smartville, Neb., and have placed their entire order for fifteen-horse power engine, twenty-horse power boiler, etc., with the Frost Mfg. Co., Galesburg, Ill.

The Fargo & Southern Elevator Company, of Winona, Minn., has been incorporated with a capital stock of \$150,000. President, S. Y. Hyde, of La Crosse, Wis.; Secretary and Treasurer, H. O'Neill, of Winona, Minn.

D. D. Mangam, in the wholesale grain and feed business in New York City, has admitted to an interest in the business L. H. Williams, W. L. Mangam, and D. D. Mangam, Jr. The firm name is D. D. Mangam & Co.

Messrs. Hadden & Farrington, of Memphis, Tenn., have added grain to their business as cotton factors and commission merchants. Mr. G. F. Huls, an experienced grain man, will have control of this branch of the business.

G. S. Barnes, President of the Northern Pacific Elevator Company, believes the acreage of wheat in the territory of Dakota to be twenty per cent. less than that of 1894, but admits the yield will be fully as great per acre.

The banner crop of wheat in Kalamazoo Co., Mich., is reported to have been raised on the Beckwith farm, near Kalamazoo, twenty acres of Clawson wheat yielding 1,004 bushels, an average of 50.15 bushels per acre.

N. H. Payne, of Hunter, Dak., in looking over the AMERICAN ELEVATOR AND GRAIN TRADE, saw the advertisement of the Frost Mfg. Co., Galesburg, Ill., and placed an order for a complete elevator outfit with that firm.

Vandever Bros. are building an elevator at Davenport, Neb. They use a fifteen-horse power engine and twenty-horse power boiler of the "Frost" make. Their entire order has been placed with the Frost Mfg. Co., Galesburg, Ill.

The Memphis (Tenn.) Grain Elevator and Manufacturing Company has been incorporated by John K. Speed, W. J. Chase, Louis Hanauer, Napoleon Hill, J. C. Neely and Robert Galloway, with a capital stock of \$100,000.

The contract for the new elevator at Washburn, Wis., has been let by the Chicago, St. Paul, Minneapolis & Omaha Railroad Company to J. T. Moulton & Son, of Chicago, the contract price being \$225,000. The work was begun immediately.

The Northern Pacific Elevators at various places in the vicinity of Fargo, Dak., have taken in about 75,000 bushels of new wheat, most of which graded No. 1 hard. The indications show a good quality but a lighter yield than was expected.

Says the *Augusta Gazette*: The farmers of Butler Co., Kan., might give a peck for each acre of growing corn in their fields toward a monument for Grant. At 25 cents per bushel, about \$8,000 might be realized out of the county's 130,000 acres.

The yield of wheat from about five and one-half acres of the Fort Collins College Farm, Col., was 175 bushels of improved Fife and Blount's Hybrid No. 15. The yield of the latter from one acre, from thirty pounds of seed, was forty-five bushels.

A certificate of incorporation was given, on Aug. 19, to the Armourdale Elevator Company, of Kansas City, Mo., the incorporators being James P. Campbell, W. C. Jamison, N. F. Gorsuch and J. O. Brandenbaugh. Capital stock, \$35,000, all paid up.

An elevator company has been organized at Bismarck, Dak., in connection with Evans' line of boats, to buy and ship grain at all river landings between Pierre and Bismarck. Elevators will be built this fall at Fairbanks, Libeau, Scranton and La Grace.

Messrs. Thomas & Benham, members of the Produce Exchange of New York, engaged in the flour, grain, butter and cheese business, were unable to meet their contracts on Sept. 3. It was believed, however, that their liabilities were but small.

Webb Bros. & Co., of Bedford, Iowa, are building an elevator at Clearfield, Iowa, and have decided to make it one of the best in the state by putting in steam and shell, cleaner, etc. They have just received the outfit, which is from the Frost Mfg. Co., Galesburg, Ill.

The St. Croix Elevator Company, of New Richmond, Wis., has filed articles of incorporation, the capital stock being \$25,000. The object is to construct and operate elevators on the lines of the Wisconsin Central and the Chicago, St. Paul, Minneapolis & Omaha Railway Companies. The incorporators are Wm. Johnson, O. W. Mosher and J. E. Clover.

Grain dealers in the northern portion of Wabash, county, Ind., and at other points along the line of the Detroit & Eel River division of the Wabash road, who formerly shipped their grain to Toledo, Ohio, exclusive-

ly, have of late transferred their business to Detroit, Mich., and their example is being followed by dealers on the Nickelplate, Baltimore & Ohio and Lake Shore roads. This is said to have been caused by the improper grading of a Toledo inspector.

Six million feet of lumber and 3,500 kegs of nails have been used in constructing the new 1,600,000-bushel elevator in Southeast Minneapolis. These figures will give a fair idea of the immense proportions of the elevator, which, it is expected, will be ready to receive wheat by October.

The Union Warehouse & Elevator Company, capital stock \$300,000, has been incorporated at Montgomery, Ala., with John R. Tyson as secretary, and F. H. M. Ritt as general manager, to erect a warehouse to hold 20,000 bales of cotton and an elevator; probably also a flour mill.

The syndicate which recently bought the Fargo Southern Elevators, at Fargo, Dak., are building a new elevator at Wahpeton, Dak., to take the place of the warehouse destroyed there last year. They are also constructing a large warehouse at Fargo, which will be supplemented by an elevator.

That Indianapolis is again coming to the front as a grain center is evident from the fact that some day last month there was in store at that place 452,312 bushels of grain against 198,700 at the corresponding date last year; besides there were fully 400 carloads of grain on side tracks to deliver to elevators.

W. W. Boynton, the scalper, commonly known on the Chicago Board of Trade as "Willy Wally, the sweet singer," has been sued by Schwartz & Dupree, of Chicago, for \$15,000 for losses incurred in stock speculations. On change it was generally believed that Boynton had lost most of his money.

A most remarkable yield of wheat is reported from Aberdeen, Dak., fourteen bushels machine measure being received from a plot of ground twenty-two rods long by two rods wide. When brought to the mill it weighed out just fifteen bushels. This shows a yield of nearly fifty-five bushels to the acre.

The Central Elevator Company, at Minneapolis, Minn., has been incorporated by W. W. Huntington, Andrews R. Potter and George L. Baker, all of Minneapolis, with Mr. Huntington as president. The corporation is to run thirty years, commencing Sept. 1. The capital stock is \$100,000, and the limit of liabilities \$50,000.

The Van Dusen-Eliot Company has been incorporated at Duluth, Minn., to do a general commission business, with a capital stock of \$100,000. The incorporators are George W. Van Dusen, of Rochester, Minn.; Robert Eliot and George W. Marling, of Milwaukee, Wis.; C. H. Chadbourn, of Rochester, and S. F. Daggett, of Duluth.

The once traditional one dollar a bushel price of wheat in Oregon has this year gone down to fifty-seven cents, and even at that figure there is little demand. The great distance from the central wheat markets of the world by land and sea, it is alleged, form the chief and primary cause for the startling decline in the price of Oregon wheat.

The Lake Superior Elevator Company held its annual meeting at Duluth, Minn., Aug. 18. The president's report showed that the business wheat year had been satisfactory. The reduction in storage rates is expected to give a powerful impulse to business. The new elevator of the company is almost completed. The old board and officers were re-elected.

The Minnesota & Dakota Elevator Co., of Minneapolis, filed amendments to their articles of incorporation on Sept. 8 in the register's office. The capital stock is increased from \$100,000 to \$150,000, and the number of shares from 2,000 to 3,000. The date of the annual meeting is changed from the first Monday in March to the fourth Tuesday in August.

Messrs. Baker and Murdock of the state railway and warehouse commission, visited Glencoe, Minn., on Aug. 20. They were met by a good many farmers for the purpose of discussing the railway and warehouse laws of last winter. The chief complaints made by the farmers were in regard to transit rates and the short weights given by the local elevator men.

Wheeler, Rollins & Co. have opened a commission business in grain, provisions and stocks at St. Paul, Minn. They will also make a specialty of filling orders for millers, in which they will be greatly aided by their connections with some of the largest and most influential houses in Chicago, Milwaukee, St. Louis and New York. The firm is composed of O. Wheeler, of Winona; H. M. Rollins, of Omaha, and M. B. Huffman, of Neely, Neb., all practical grain men, who have been in the business for many years.

The malsters of Lyons, N. Y., who buy annually over 300,000 bushels of barley for their business, state that the quantity of that grain coming into the market in Wayne county is unusually large this season. This, they say, is because of a fear among the farmers that, owing to the immense quantities of barley raised in Central and Western New York, the market will become lower as the season advances. Fifty and 55 cents a bushel for barley is being paid for the grain in Wayne county. This is slightly lower than a year ago.

Knowing well the practice of speculators to put up prices at the first appearance of any outgoing movement in wheat, the sales and shipments are now partially kept secret. There is reason to believe, however, that advantage is being taken of the phenomenally low freight rates now prevailing to transfer a good deal of our wheat to

the seaboard. By selling the futures against the cash stuff the transfer can be made without loss. It is now quite difficult to find out the exact facts in regard to buying or shipping.

The Union Elevator, located on the Manitoba tracks at University Switch, Minneapolis, Minn., was opened for business Sept. 6. This elevator has a capacity of over 1,750,000 bushels. The L. T. Soule Elevator, at Minneapolis Junction, on which has opened also, has a capacity of 100,000 bushels, but is so arranged that twice that amount may be accommodated.

In 1880 the two states of Iowa and Illinois raised 600,794,728 bushels of corn, or considerably more than one-third of the entire crop of America. This year those two states bid fair to raise 800,000,000 bushels of corn. In five years the two states will be raising annually 1,000,000,000 bushels of corn. The corn belt will be the wealthiest belt in the Great West. There will be manufacturing centers in that belt. Those centers will command the trade of vast areas of the richest country. One of those centers Clinton has already become.

ELEVATOR CHARGES.

The grain market of Chicago is just now suffering an unusual depression. One cause largely contributing to this is the extortionate charges made by our elevators for storage. While reductions have been made in these charges in various other cities, our elevator-owners, regardless of market values, seem disposed to "charge all the traffic will bear" by maintaining a rate of storage that equals in a year about 20 per cent. of the value of wheat, nearly 40 per cent. of the value of corn, and 60 per cent. of the value of oats, at present prices of these commodities. This is rather startling, but we believe entirely true. For instance, the cash price of wheat in the market is about 80 cents. The storage on this for the first ten days would be 1 1/4 cents per bushel; for every ten days thereafter up to Nov. 15 the rate is one-half cent. On that date winter storage commences, which is 4 cents a bushel until April 15. If the grain remains in the elevator after that time, a charge of one-half cent additional is made for every ten days; so that a bushel of grain put in a Chicago elevator, say on the first day of August, 1895, and remaining there until the first day of August, 1896, would be subject to a total charge for storage of about 15 cents.

To the cost of storage must be added the cost of insurance. There is practically no risk taken by the elevator proprietors. The receipts which they give particularly specify that the owner of the grain assumes all risk of damage by the elements. The result is that this business has proven exceedingly profitable in the past. Most of the large elevators in this city have already practically paid for themselves, and their proprietors should be willing to meet the present condition of affairs by voluntarily announcing a reduction in rates. This they can well afford to do, and still have left a very liberal margin of profit. That their charges are excessive, none can deny, and if the reputation of Chicago as the great grain center of the country is to be maintained, it is absolutely necessary that the elevator interest of this city should recognize this fact. A few days since an elevator receipt of 5,000 bushels of wheat was offered for sale on the floor of the Board of Trade on which the accrued charges for storage amounted to *forty cents a bushel*. There is grain in some of the elevators in Chicago to-day subject to even a greater charge for storage than this; so that it would appear that by reason of these enormous charges the grain is being literally eaten up.

We understand that some of the parties controlling our warehouses have recently rebated a small portion of the regular charge for storage in order to encourage shipments and induce fresh receipts, because the more frequently the grain is changed the larger the storage receipts. Under our present law the elevators are authorized to charge 1 1/4 cents for the first ten days or part thereof, and under this, where grain is changed freely, the income of an elevator is greatly increased. The gentlemen who represent this great interest will doubtless have the sagacity to see that the onerous charges which have prevailed for so many years, and which, perhaps, under a different condition of affairs were somewhat justifiable, will be so modified as to meet the present pressing circumstances. The pawnbroker rates now in force are proving a serious obstacle to transactions on the Board, and a continuation of such charges will greatly injure Chicago as the great grain market of the country, for the grain will naturally seek (as it has already begun to) other points of shipment, where it will not eat itself up in charges.—*Inter Ocean*.

The large elevator of Slutz Bros., at Alta, Iowa, was burned on Sept. 6. The cause of the fire was not known. The building with contents were insured for about \$7,000.

At Groton, Minn., the following officers of the Groton, Union Elevator were elected at the last meeting of the stockholders: F. Smith, D. B. John, A. M. Svensen, S. J. Griffin, Ed Mather, J. P. Fargo, S. Gibbs, with S. J. Griffin as president, F. Smith, treasurer, and D. B. John, secretary.

On the night of Sept. 6, the warehouse of S. Bash & Co., at Fort Wayne, Ind., the largest commission merchants in Northern Indiana, was completely destroyed by fire, the oil mill and grain elevator adjoining being also damaged. The loss was estimated at \$30,000; insured for \$20,500. The cause of the fire was not ascertained.

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HARLEY B. MITCHELL, - - - Editor.

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ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

CENTRAL IOWA GRAIN DEALERS.

The grain dealers of Central Iowa held a quiet meeting at Des Moines on Aug. 28 and added eighteen new members to its list. Officers were elected as follows: President, M. McDonald, of Bayard; vice-president, E. A. Abbott, of Marshalltown; secretary, George Heaton, of Perry; treasurer, L. Mott, of Des Moines. The association is in a flourishing condition. Its purposes are protective.

SETTLEMENT OF THE DUMP SUITS.

It will be noticed that the long drawn-out troubles between Mr. J. M. Harper, of Peoria, and the Grain Dealers' Association of Illinois, have at last been settled. By the terms of settlement the members of the Association receive licenses from Mr. Harper to use grain dumps under the patents controlled by him. What the terms of settlement were we are not informed; but they were evidently satisfactory to both parties. Whatever may have been the merits of the controversy, parties who were not members of the Association have no right to criticise the action of that body in settling instead of fighting. Patent litigation is tedious and expensive, and no man can expect his neighbor or an association of his neighbors to fight his battles for him without expense to him.

A GREAT BULL PROJECT.

An Indiana man comes to the front with a scheme for "bulling" the price of wheat second only to that of the Kansas man, which was commented on last month. His idea, however, is not that the price is artificially kept low, but that there is too much wheat. He estimates that there are 4,000,000 farmers who are interested in wheat. He wants each of these to subscribe five dollars, making a capital of \$20,000,000 to operate with. Of this he wants to use \$16,000,000 to purchase one-half of the visible supply of wheat at 80 cents per bushel, and expend the remaining \$4,000,000 in grinding it into chicken feed. He estimates that the feed would sell for enough so that the farmers would have only \$10,000,000 invested. He thinks that the withdrawal of the 20,000,000 bushels of wheat from the possibility of consumption would advance the price of wheat to \$1.25 so that the gain to the holders of the 300,000,000 bushels of wheat still in farmers' hands would be \$135,000,000; enough to again open the flood-gates of prosperity on the entire country.

As no one has as yet offered to be custodian of

this fund, we will state that those who wish to contribute five dollars to this worthy purpose may send the money to THE AMERICAN ELEVATOR AND GRAIN TRADE. We will put the money where it will do us the most good.

But all these queer schemers lose sight of the fact that the price of wheat is not governed by the supply in the United States, or the home demand. So long as foreign buyers refuse our wheat whenever it advances a point, notwithstanding that our crop is notoriously short, ought to prove something to the schemers, but they do not seem to heed the lesson.

THE WESTERN WATERWAYS CONVENTION.

The Northwestern River Convention met at St. Paul on Sept. 3 pursuant to the call previously issued by Governor Hubbard, of Minnesota. Delegates to the number of 926 were present from Montana, Dakota, Nebraska, Minnesota, Illinois, Wisconsin, Iowa and Missouri. Each delegation came prepared to make a demand for the endorsement of some pet scheme, and naturally the result was an endorsement of pretty nearly every scheme relating to the improvement of the rivers and harbors of the Northwest. The convention was a large edition of the House of Representatives in Committee of the Whole on the River and Harbor Bill.

While the convention has been stigmatized as the meeting of conspirators to organize a raid on the treasury, it must be remembered that, compared with the burdens borne by the people of the states represented, the appropriations by the national government for internal improvements have been small. Illinois in particular is entitled to some of the money which she pays into the national treasury. In the past twenty years Illinois has paid \$300,000,000 in internal revenue taxes to the general government; yet a few small appropriations (sometimes not asked for and generally not needed) have been her share of the "spoil" doled out by every Congress.

It seems apparent that in the future the Northwest is "solid" for the improvement of her waterways. Even the Hennepin Canal was endorsed, though we fear that local jealousy in Congress will again attempt to defeat the scheme. One thing we would advise Northwestern congressmen to do: When Congress meets, hold a caucus, and vote solidly against the River and Harbor Bill, if it is as inequitable as its predecessors have been.

THE FARMERS' OPPORTUNITY.

Uncle Rufus Hatch, the New York banker, widely known as a patron of agriculture, particularly the branch of it relating to the "shearing of lambs," has come out with a remarkable statement that for the first time since 1881 "the farmer is master of the situation." So he says in the New York Sun, and he declares that if farmers will hold their wheat at a dollar a bushel at the stations, they can get it.

He reaches this conclusion by the following course of reasoning: Estimating 40,000,000 bushels as on hand from the crop of 1883, the total yield of 1884 at 512,000,000 bushels, and the total yield of 1885, deducting nothing for spring wheat damage, at 357,000,000, he makes the total for two years 909,000,000 bushels. We exported last year 132,000,000 bushels, and used for seed 50,000,000, and home consumption 300,000,000 bushels; allowing the same for seed and consumption this year, and we have a total of 832,000,000 bushels, which leaves but 77,000,000 bushels for export and to carry over. Therefore, says Mr. Hatch, if we export half as much wheat as we did last year, we shall not have a bushel left at the beginning of the harvest of 1886, and should the crop of 1886 be no larger than the crop of 1885 we should be importing wheat within eighteen months, and it would be selling at famine prices.

We do not deny the possibility of dollar wheat at the stations, but we do say that a similar course of reasoning to that of Mr. Hatch has swallowed up a good many million dollars the past year,

owned by people who were willing to bet on their logic, but now owned by the wily bears. Many a shorn lamb is willing to swear that "figures are the dumbest liars extant." But Uncle Rufus forgets that concerted action by three or four million farmers is virtually impossible, and moreover, many of them are obliged to sell. Then, too, India, Australia and several other countries have something to say about the price of wheat. We do not raise all the wheat in the world, but we produce about all the cranks with schemes to bull its price.

THE MINNESOTA WHEAT GRADES.

On Sept. 9 the Railroad and Warehouse Commissioners of Minnesota abolished the grades No. 1 Hard and No. 1 Northern, established July 10. Other grades remain unchanged. The grades now stand thus: No. 1 hard spring shall be sound, well cleaned and weigh not less than fifty-eight pounds to the measured bushel, composed mostly of Scotch fife. No. 1 northern spring must be sound, well cleaned, weigh not less than fifty-seven pounds measured bushel and shall be composed of hard and soft wheat. The change was brought about by the agitation at Duluth. The effect of the change is claimed by experts to grade all good wheat No. 1 hard, and add four cents per bushel to the value of all such products.

The commissioners claim that the change is merely technical; but they better leave the grades alone, rather than juggle to add four cents per bushel to the farmers' profits; which, with even the authority of the state of Minnesota, they cannot do. The change made certainly will not add to the reputation of Minnesota wheat nor impress on farmers the difference between hard and soft wheat.

THE CANAL QUESTION IN NEW YORK.

On Aug. 19 a Canal Conference was held at Utica, N. Y., attended by a number of prominent men, including Horatio Seymour and Orlando B. Potter. The purpose of the conference was first to consider the necessity of enlarging the capacity of the Erie Canal, lengthening the locks, and increasing the depth of water two feet; and second, whether the state or National Government should stand the expense. On this last question there was considerable difference of opinion, but the view finally prevailed that the state should make the improvements, for the reason that national aid could only be secured by trades and compromises that would cost New York more in the end than the improvements would if made by the state direct. The committee on resolutions submitted the following report:

The delegates in convention assembled representing the various commercial and agricultural interests of the state of New York, hereby declare:

First, That as it has been the policy of the people of this state to maintain adequate facilities for the transportation of freights between the Great West and Canada, to the seaboard by means of a cheap water route, that this policy should not be abandoned, but that the canals of the state should be forever preserved and maintained free and in such condition as to satisfy the wants of commerce.

Second, That in pursuance of such policy the interests of the entire state demand that the canals shall be improved by lengthening the locks and deepening the channels.

RESOLVED, That the preservation and improvement of the canals be urged upon the attention of the next legislature by the executive committee of this convention. The report was unanimously adopted.

A committee was appointed to bring the objects of the meeting before the political conventions. Another resolution was adopted, aimed at the Buffalo ring, as follows:

RESOLVED, That it is the duty of the people of the state who are taxed to support the canals of the state to see to it that elevator monopolies are not permitted to neutralize the effect of our great water system upon the commerce of the state by charging extortionate rates for elevating and transferring grain, and this conference does request the coming legislature to take such action upon this matter as shall relieve the commerce of the canal from such unjust charges. Adopted. The meeting then adjourned.

Editorial Mention.

EAST-BOUND grain freights from Chicago are in a thoroughly demoralized condition.

THE collector at St. Louis is determined to make the bucket shops there pay a license.

IT is said that the Chicago elevator men have withdrawn the two cents per bushel rebate offered on wheat.

ENGLISH wheat has sold at \$1.01½ only, in spite of the big shortage in this year's crop all over the world.

MESSRS. MONTGOMERY BROS., of Templeton, Iowa, in renewing their subscription, add: "Send August number; cannot do without it."

THE Northern Pacific is carrying grain from Washington points to Minneapolis and Duluth for \$8 per ton, or 40 cents per 100 pounds.

IT is thought that the run of Indiana wheat to St. Louis is about over. The East St. Louis elevators have about all they can comfortably take care of.

HON. J. B. GRINNELL, of Iowa, refused to attend the Waterway Convention. Mr. Grinnell maintains that no grain exporting country was ever prosperous.

ST. LOUIS thinks the Waterway Convention was a fiasco. Perhaps the fact that a Kansas City man was president has something to do with St. Louis' belief.

W. D. RINEHART, Terre Haute, Ind., writes us: "I wish to congratulate you on the 'get-up' of the last number of the AMERICAN ELEVATOR AND GRAIN TRADE."

A SALE of wheat was made in Chicago, Sept. 5, at 95½ cents per bushel laid down in Liverpool, a price which evidently is the result of the present low freight rates.

WILLIAM WELLS, who superintended the building of the first elevators in Chicago, and who has always been identified with the elevator business, died at Buffalo, N. Y., on Sept. 3.

THE "ringsters" at Buffalo may threaten all they please, but threats will not keep out competition in the transfer of grain. They are simply calling attention to their own imbecility.

THE *Kansas Farmer* advises the farmers to sow with wheat every bit of good, clean ground that can be spared for the purpose. It believes that everything points to good prices in 1886.

IT is said that 1,000,000 bushels of wheat have been taken at Duluth for export. The belief is that it is to be taken to Buffalo and stored there to take advantage of cheap storage rates, and to be available in case of a rise.

THE evil effects of the rebate system carried on of late by St. Louis elevators to attract as much grain as possible to carry through to the fall and winter markets, are becoming more and more apparent as indicated by numerous requests from shippers to rebate on their shipments extending back to the dissolution of the elevator pool. They claim that the elevators can carry grain at half the rate they have been charging

heretofore, so they do not want to pay any more. It is stated that a country member will introduce a bill in the Legislature making elevator charges three-quarter cents for the first ten days.

THE "Monarch" Grain and Seed Separator, made by the Newark Machine Co., Columbus, Ohio, is one of the best known machines of its class. The makers evidently have full faith in its capabilities, judging from the offer in their card on another page.

THIS is the corn sheller season, and among the numerous machines advertised in these pages will be noticed that of Nathan Stedman, Aurora, Ind. His is a strong, well-made machine, with large capacity. Mr. Stedman also makes special corn cleaners to order.

AMONG the new commission cards in this issue is that of Messrs. Mills & Yates, of Duluth and Minneapolis, who do a general commission business. Mr. R. H. Ferguson, manager of the Duluth office, will promptly attend to any business placed in his hands.

W. R. EYNON & Co., of 63 Center street, Cleveland, Ohio, advertise their Treble Reduction Roller Feed Mill on another page. It is adapted to the uses of elevator men, millers, stockmen, and farmers, and is claimed to possess all the requirements of a perfect feed mill.

THE old and reliable firm of H. Channon & Co., 210-216 South Water street, Chicago, advertise some of their specialties on another page. The firm will be pleased to correspond with those needing anything in their line, and will furnish circulars and information to those applying.

THE Fremont Foundry & Machine Co., of Fremont, Neb., desire to correspond with those who intend to build or enlarge their houses, or who have repairing to do, which they make a specialty. They carry a full line of elevator machinery, and can furnish anything needed on short notice.

PARTIES who want a good horse power for any purpose should notice the card of David Bradley Mfg. Co., 63 North Desplaines St., Chicago, advertising the Packer Portable Upright Horse Power, which has the tumbling-rod overhead. A descriptive circular will be sent free to applicants.

ST. LOUIS people declare that the Hoosiers beat the world for scientific mixing of wheat. Lots of Indiana wheat have been rejected, though shipped for No. 2. Some of it has been shipped with orders to "hold on track if it does not grade No. 2," which, the St. Louis people think, looks as if the shippers entertained doubts themselves of its being up to grade.

CHIEF Grain Inspector Price, of Chicago, has relieved the minds of grain speculators by setting down the rule that no superabundant quantity of shrunken wheat shall be admitted in the No. 2 grade of spring wheat. As for the high inspection of the oats crop complained of, Mr. Price has expressed his willingness to personally inspect cars graded too high, if he is notified by the receivers.

THE Railroad and Warehouse Commissioners of Minnesota have just settled a question which is of great importance to the produce and elevator men, viz., the handling of damp or no grade wheat. Grain of this character is to be taken into special bins, properly handled and graded out on its merits. Thus when a car load of wheat which meets all the requirements of No. 1 Northern, except that it is damp or tough, is inspected, it is to be marked by the inspector, "No. 1 Northern if in condition—special." The wheat is then put into a special bin, and if, after being handled, it comes up to the requirements

of No. 1 Northern, it is then graded. If it does not come up to the standard, it is graded out on its merits, whether it be No. 3 rejected or no grade.

RUMOR says that preparations have been made to corner wheat every month from October to May. The leader of the scheme is said to be Phil. Armour, with plenty of Chicago and New York capital. The course of the bulls has been pointed to as confirmation of this rumor; but what tells most against it is the fact that the scheme has become known. Armour does not publish his intentions in that manner.

THE Southern states are largely increasing their food products. Recently compiled statistics show in corn, between 1875 and 1884, an increased production of 109,124,000 bushels. The gain in oats during the same period was 29,399,500 bushels. Arkansas, Virginia, the Carolinas, Georgia, Texas, Alabama and Kentucky produced the increase in corn, which the present year will doubtless further increase.

THE belief that the recent change made in the grading of No. 1 hard and No. 1 Northern wheat by the Minnesota Railroad and Warehouse Commissioners is apt to raise the price of wheat about four cents a bushel, is laughed at by Chicago Board of Trade men. And, in fact, they have cause for feeling easy about the matter, as very little of the choice No. 1 hard heretofore came to the Chicago market, the greater quantity being taken up by local millers.

THE FROST MANUFACTURING Co., Galesburg, Ill., have been working overtime, with plenty of orders accumulating on their books, and excellent prospects ahead for the rest of the fall season. In a circular lately issued by Mr. A. B. Colton, the company's manager of the sales department, we notice that, though the company has only been in the Nebraska trade two years, they already refer to twenty-five complete steam outfits. They have on their order-book the names of firms buying at over 200 stations in Nebraska. This is certainly a flattering record, and one made possible only by honest work.

BARNARD & LEAS MFG. Co., Moline, Ill., have just issued a fine catalogue of the various well-known machines manufactured by them. Their business the past year has shown a very satisfactory increase over previous years, and the prospects of the fall trade are unusually good. The sales of the company during August aggregated 211 machines, an average of seven a day. The works of the company have been enlarged the past year, and now have a floor space of 70,000 square feet. Their machinery is known all over the United States, and even in foreign countries; and the company's steady growth is evidence of the estimation in which its machines are held.

A CHICAGO bucket-shop man says something is going to happen: "The fact is that all this option trading in grain, now carried on in Chicago, properly belongs to New York. Sooner or later it is bound to go there, for that is the money market, and money can be had there at cheaper rates than anywhere else on this continent. It takes large sums of money to carry on this sort of business, and will naturally take more and more. The traffic will be carried to New York by influences as natural as the laws of gravitation. When it once gets there it will stick, and there will be no means of getting it back." He evidently feels a little sore over the Market Committee.

GREAT dissatisfaction, it is reported, has been caused among the elevator men and farmers along the Winona & St. Peter Railroad by the alleged hasty manner in which the Railroad Commissioners made their visit of inspection on the above line. The Commissioners, it is claimed, inspected neither elevators nor warehouses, though the warehousemen wanted them to verify their grain

inspections, and test their weights. The farmers interested in the inspection say that, not being notified at all of the visit of the commissioners, they did not get a chance to convey their wishes to them. If the facts are as stated, this would indeed show a gross neglect of duty on the part of the commissioners; but perhaps the latter may be able to tell another story about it.

A LIVELY cross-firing has been kept up for some time past between Mr. S. H. Seamans, Secretary of the Millers' National Association, and Mr. J. R. Dodge, the statistician of the agricultural department. In Mr. Seamans' opinion the monthly reports of the agricultural department should not give any estimate of the probable crop yield, but simply "the percentage of the crops as compared with former years." He further holds that the wheat crop of 1884 largely exceeded the government estimate. Mr. Dodge, on the other hand, claims that his report of last year's crop has generally been accepted, and adopted by Bradstreet's and other publications of like reputation. This year's crop is estimated at 357,000,000 bushels by the agricultural department, while Mr. Seamans, and people who agree with him, put it at 330,000,000 bushels. This difference of estimate, Mr. Dodge says, arises from the fact that private estimates are placed on the acreage as shown by the state assessor's returns, which generally vary from 8 to 12 per cent. under the actual acreage.

EXPORTS OF BREADSTUFFS.

The following are the official figures, as shown by the Bureau of Statistics of the Treasury Department, of the exports of breadstuffs from the United States during the month of August and the last eight months ending Aug. 31, this year, as compared to the same periods last year:

Articles.	August, 1885.		August, 1884.	
	Bushels.	Valued at	Bushels.	Valued at
Indian corn....	3,019,000	\$1,641,884	1,599,293	\$ 974,208
Oats.....	658,504	248,039	76,266	27,675
Rye.....	38,303	26,358	117,989	88,413
Wheat.....	3,187,698	2,952,192	12,373,402	11,269,970

Articles.	Eight months, 1885.		Eight months, 1884.	
	Bushels.	Valued at	Bushels.	Valued at
Indian corn.	45,996,633	\$24,013,707	23,597,447	\$14,539,436
Oats.....	2,962,835	1,179,174	2,022,499	780,138
Rye.....	697,943	490,178	3,371,954	2,411,353
Wheat.....	38,476,608	33,986,191	47,820,578	47,466,571

CHICAGO ELEVATOR CHARGES.

There is a belief prevalent among those who have the best interests of Chicago at heart, that the course of the elevator owners of this city is not calculated to increase the grain trade of Chicago. The state law allows them to collect 1½ cents per bushel for the first ten days and ½ cent per bushel for each succeeding ten days or fraction thereof. Storage rates here are much higher than in Buffalo. It is not claimed that the elevators have exceeded the privileges conferred upon them by the state; it is only believed that their course is driving trade away from Chicago.

It is said that during the last eight months the elevators have received \$90,000 every ten days; a princely sum, truly, in times when the prices of all commodities have fallen. It is believed that they should lower their rates to meet the decline that has taken place in everything else.

The reasons assigned for the refusal to lower rates is that the houses have all they can do at present prices, and that the care taken of grain in Chicago elevators is far greater than is bestowed on grain in other cities. Both of these statements are undoubted facts. But one of them proves too much; it proves that the elevator ca-

capacity of Chicago is not large enough. This city should have at least ten more elevators; and if the charges were reduced they would be kept full all the time. The Chief Grain Inspector, P. Bird Price, says that if there was more elevator room and smaller charges, a good deal of grain that is now transferred without going into store, would go into short storage, which is, of course, the most profitable. Reduced charges would also stimulate future trading, and the benefits would be felt all around. Let the elevator men themselves solve the question, and not wait for the legislature, as is being threatened in Missouri.

SPECULATING IN GRAIN.

[What the St. Paul *Globe* man saw in Chicago:]

"Talking about queer people," said a Board of Trade man to the *Globe* the other day, "I don't believe there's a place in Chicago where you will see as many odd characters gathered together as over on 'Change. There's the well-dressed man and the greasy, dilapidated-looking individual; handsome young fellows and wrinkled old faces that would stop a clock, so ugly are they; the honest trader and the wily thief; the—but oh, pshaw! what's the use of enumerating them. Come over and see for yourself," and suiting the action to the word the operator led across the street to the Board of Trade building, the correspondent meekly following. Within the spacious hall were gathered several hundred traders who were anxiously awaiting the signal to begin trading. The room was comparatively quiet, when on a sudden the gong connected with the huge clock in the tower of the building was struck one blow by the heavy hammer concealed under its brazen face. In an instant all was confusion, and the various "pit," set apart for the sale of wheat, corn and provisions were filled and surrounded by a yelling mob whose actions suggested insanity or the interior of a mad-house. "See that old chap over yonder staring at the ladies in the visitors' gallery?" said the *Globe's* pilot, who might as well be called Brown, because that isn't his name. "Well, that's Henry Botsford. He represents that class of traders who are immensely popular, and make lots of money in such a quiet way that no one knows how it is done or begrudges him a penny of it. He stands in that position, hands behind his back and chin elevated, with eyes directed at the ladies in the gallery, seemingly oblivious of what's going on in the wheat pit. But he's too sharp to live long, that man. In a few minutes he'll be in the middle of that buying or selling for all he's worth—and you can bet he makes money on his deal."

"See that chap with a white dicer and short jacket? Well, he's one of the curiosities. Came here about a year ago with his wardrobe in a paper collar. Was lucky in puts and calls, got onto a deal in corn, bought at 35 and sold at 40 cents. Presto! He picked up \$3,000 in a jiffy, and has been making lucky hits ever since. He's an o.d. hand now and ropes in many a greeny—or 'lambs,' as we call them. Some day that fellow'll have an office of his own and skin the countrymen just as the rest of us do."

"Just across the street is the open Board of Trade, where any one who pleases may go on the floor and speculate. Here Brown piloted the *Globe* man, and secured seats where the faces of the operators could easily be seen. "Observe that antiquated petticoat up there in the gallery," said Brown. "The boys here call her 'the mummy'; she always gets here early, occupies the same seat, never says a word except to call a messenger at intervals to buy or sell a few hundred of wheat or twenty barrels or so of pork. She's been a regular attendant for years, and always wears that same bottle-green dress and big hat. I've heard she's a spinster of doubtful age, and an income of a few hundreds doled out to her in small sums at frequent intervals. Certain it is, she never makes anything in her deals, and she always has some money to throw away each day. Time was when she might have made a deal with some of the lucky fellows on the board, but she's too old for that nowadays."

"There's a fellow who might be mistaken for a successful operator or the representative of some big commission firm. But he isn't. Oh, no! Come round to lunch with me to-day and in the restaurant where we will dine you'll see that same chap wearing a white apron and taking orders from the customers. He might have been a good waiter if he'd stuck to his business and let the Board alone. But one day he made a dollar or so on a deal and since then blows in his \$5 a week salary with commendable regularity. He's always got a 'pointer,' and if you should go and ask him now how the market was going he'd give you the necessary information, provided you'd give him a percentage of your profit should the deal be successful. Most of his money goes in putting up margins, which shows how good his judgment is. But nothing short of an order of the court confining them behind iron bars will keep such suckers away from this place."

"That fly-looking woman in fine togs over yonder," said Brown, calling attention to a handsome little brunette who was gorgeously but tastefully arrayed in a new street costume, "is the shrewdest operator on the Board. She keeps half a dozen messengers and brokers busy all the time. The impression is that she is hand and glove with several well-known firms that are all

making money. One thing certain, if she is her own firm, and no partner to divide profits with, she's ahead \$10,000 a year. What she doesn't know about war rumors and crop reports and hot wheat wouldn't be worth repeating. Ask her for a pointer, and she'll tell you a lie with the serenest smile, and buy or sell according as you sell or buy. She's a sharkness, to coin a word, and a good one to keep away from. She always comes in with such a timid, shrinking air, but she's as brazen as a strumpet, and as bold as they make 'em. I've no use for a woman that will go into such a crowd as this any way."

"That queer old party over there with an umbrella—see him? Now you'd think that old chap knew all about those figures he's staring at so hard, wouldn't you? Well, they don't affect his mental faculties any more than a box of alphabetical blocks would affect an uneducated hog. He's one of the frightful examples of slaves to speculation. Was worth lots of money at one time and made a good deal at speculation on the Board. But one day he was caught short a good many barrels of pork, and he never recovered from the shock; his loss affected his mind. I don't know how he lives, but he drops in nearly every day, stares at the blackboard for a time, and walks off muttering and shaking his head. Yes, and there's lots more like him, too, but most of 'em become desperate and make away with themselves. Take warning, young man, and don't speculate unless you've got a sure thing—but even then the chances are some other fellow has a surer, and you are likely to get downed."

THE ELEVATOR MONOPOLY.

One of the resolutions adopted by the Labor Convention at Rome, last week, denounced the exorbitant charges of elevator monopolies in Buffalo and New York, and asked the next Legislature to remedy the evil by law. In connection with this subject the convention passed another resolution—in favor of putting the canals in good condition. These resolutions will meet with public approval. But before any more money is expended on the canals there should be some means of regulating the elevator monopoly.

Year after year the boatmen and merchants interested in the grain trade have gone to Albany demanding redress from exorbitant elevator charges, and year after year the elevator monopoly has succeeded, as other monopolies have, in defeating any legislation interfering with their exorbitant profits. In Buffalo all the elevators are in a pool. Only four or five of them do any business from one year's end to the other. But the charges are so exorbitant that the earnings of these five elevators are great enough to pay handsome dividends on their own stock, and also on that of the other and larger number of elevators which remain idle.

The Lake Carriers' Association, made up of the business men of that city interested in lake commerce, recently memorialized the Elevator Association, in view of the great depression in lake and canal business, to moderate the charges for handling grain at that port. The response to this reasonable request was a flat refusal. This enraged the Carriers' Association, and the members propose to go to the next Legislature and make another attempt to curb this monopoly. The facts concerning this monopoly are disgraceful.

All grain has to be transferred from the lake vessels to the canal boats, and the steam shovel of the elevators is necessary for that purpose. The steam shovel was formerly protected by a patent, and a royalty had to be paid to the patentee. The patent has long since expired, but the Elevator Association charges the same for the use of the shovel as when a royalty had to be paid. Then it imposes an additional charge for storage, although three-fourths of the grain doesn't have and does not want any storage. The charges for this fictitious storage, as well as for transferring the grain, are the same now as years ago, when business was prosperous and there were high tolls on the canals.

The sum and substance of the matter is that the people have taxed themselves heavily for a free canal, greatly to the profit of the elevator monopoly, which stands at the entrance of the canals and levies an exorbitant charge on every bushel of grain passing through it. If it was good policy for the state to abolish tolls, because they were driving business from the canals, why is it not good policy to abolish or reduce elevator charges for the same reason? Certainly, not another dollar should be expended in deepening the canals until the elevator monopoly is broken up. The workmen, who are interested in cheap grain and cheap flour, can not do a better thing than to agitate this subject.—*New York News.*

An important suit was decided in the Supreme Court at Elmira, N. Y., Aug. 18. Theodore G. Metzger, a leading dealer in meats, of Elmira, N. Y., had entered on a corn deal, involving 300,000 bushels, with Doran & Thomson, brokers of Rochester, N. Y., who had a bucket shop in Elmira. Various margins were agreed upon as the different lots were bought. The brokers' agent insured Metzger against loss, and during the buying the latter put up \$11,600, but finally refused additional calls for margins. Doran & Thomson closed the deal at a loss. In the meantime other speculators were drawn in, when the market suddenly fell and \$70,000 was lost by the speculators. Metzger sued to recover his money, and the decision gave him \$11,600 with interest and costs.

ITEMS FROM ABROAD

Home-grown wheat in England is now selling at 97 cents a bushel, against \$1.02 $\frac{3}{4}$ last year.

An average wheat crop in Germany is about 72,000,000 bushels, and an average rye crop 218,000,000.

The Hungarian wheat crop is estimated at over 40,000,000 hectoliters, a large increase over that of 1884.

Henderson, Frenn & Co., grain and flour commission merchants, London, Eng., have failed. Their liabilities are stated to be \$150,000.

Irish agricultural statistics show that there are 5,000,000 acres of land under crop in Ireland, an increase of 81,000 acres over the acreage of 1884.

Last year at this date, wheat in Liverpool was 6 cents a bushel higher than now, and November wheat in Chicago was 5 cents a bushel less (77 $\frac{1}{2}$), says a trader.

The wheat yield of all the Australian colonies for 1885 is 37,077,134 bushels, against 45,014,174 bushels in 1884. The exportable surplus this year is estimated at 12,000,000 bushels.

The wheat crop of France is estimated at 100,000,000 hectoliters, 15,000,000 less than the amount required for home consumption. The yield in Italy is 82 per cent. of an average.

Thirty new railroads are projected in India at a cost of over \$102,000,000 within the next five years. All of which means more and more competition in wheat raising for this country.

The international corn market opened in Vienna, Austria, on Aug. 31. Hungary has a fine wheat crop; 150,000 hectares more were sown than in 1884, and the crop is estimated at more than forty million hectoliters.

The stock of grain in store at Liverpool, Sept. 1, consisted of 215,000 quarters more of wheat than last year, 230,000 barrels more of flour (just double the quantity of last year), and 30,000 quarters less of corn. These figures indicate no lack of breadstuffs there.

The European wheat crop is reported as follows, on the basis of 100: Austria, 104; Hungary, 117; Prussia, 94; Saxony and Bavaria, 100; Baden, 97; Wurtemberg, 99; Denmark, 116; Sweden and Norway, 105; Italy, 70 to 85; Switzerland, 105; Holland and Great Britain, 75 to 80; Roumania, 80 to 115; Serbia, 110.

The London *Miller* estimates that the English wheat crop this year will be 80,000,000 bushels, leaving 128,000,000 bushels to be supplied from abroad. *Dornbusch* estimates that the English wheat crop for 1885 will be 4 per cent. better than an average of twenty years. The *British Farmer* estimates the crop at 71,871,224 bushels, or a deficiency of a little over 10 per cent. from last year.

The *Produce Exchange Weekly* says the average of the rye crop of Europe is, for ten years, about 1,100,000,000 bushels. The crop of 1885 is said to have a large deficiency; if no more than 5 per cent. it would make 55,000,000 bushels, and if 10 per cent. deficiency, 110,000,000 bushels. Potatoes, oats, barley, and wheat, if the people eat as much as usual, must take the place of the deficient rye, whatever it may be.

Wheat sells in Vienna at about thirty cents per hundred weight less than in New York. But even at this low price it is found impossible to effect sales of Austrian wheat in either France or Germany on account of the high import duties in those countries. In the face of this fact Austria has 12,000,000 hundred weight of surplus wheat to export this year against 6,000,000 last year. The Austrian rye crop is short, and will have to be supplied by imports.

East India has an annual average wheat production of 261,333,333 bushels. But this year's crop, harvested in March and April, is believed to be under average. The latest returns from India make the crop of 1885 257,103,200 bushels, on the basis of 2,000 pounds per ton. The surplus of the crop of 1884 plus the crop of 1885 give a total export of 40,000,000 bushels; 12,000,000 having been already exported, there still remains about 28,000,000 available for exportation, which will only be a small proportion of what Europe will require, which probably makes an aggregate of about 230,000,000 or 240,000,000 bushels of foreign wheat. Australia will have very little if any more wheat to ship up to January, 1886. Russia and Spain have deficient wheat crops this year. Provided the crop prospects of the United States for 1886 are of a favorable nature, there will be about 95,000,000 of wheat available for exportation to Europe and 20,000,000 bushels to other parts of the earth.

They are building a new line of railroad in Central India, to be known as the Midland Indian, which will bring Bombay into immediate connection with Agra and the country south of it. This is the district where wheat grows in such profusion that large portions of the crop are annually left to rot on the ground for want of a market. A pamphlet recently published in Calcutta shows that this sort of useless over-production has occurred when the natives in other districts of India were dying of famine, there having been no means of carrying the wasting food to the hungry mouths. The construction of the line of railroad above mentioned will tend to prevent similar anomalies in future, and as the capital for

it is guaranteed by the English government, there is every reason to believe that the work will be pushed to a speedy completion. One point referred to in the Calcutta pamphlet will be of interest to American wheat growers. It is stated, on apparently indisputable authority, that wheat in the country referred to can be grown in any quantity at a cost of from 5s. to 6s. a quarter, or about 16 cents a bushel. If this be true, what chance will American farmers have in competition for the English market when this new wheat region is brought within 700 miles direct railroad communication with the sea at Bombay?—*Globe-Democrat*.



Since Sept. 1 rates from Kingston to Montreal have been raised to 2 $\frac{1}{2}$ cents for corn and 2 $\frac{3}{4}$ cents for wheat and canal tolls. This did not, however, include stocks shipped to Kingston before Sept. 1.

The recent advance of the railway rates for Eastbound grain from Chicago and Milwaukee, which caused a revival of business for lake vessels carrying grain, has been losing again in consequence of the decline in rail freights.

General Newton, Chief Engineer of the United States of America, estimates that an appropriation of about \$18,000,000 or \$20,000,000 will be required to continue the work of river and harbor improvements during the fiscal year.

The Buffalo Elevating Company has ordered shippers and receivers not to patronize Frank Williams' new transfer elevator, on pain of being deprived of association privileges. To offset this the owner of the transfer barge proposes to receive consignments of grain.

The new ship-canal across the Isthmus of Corinth is reported to be progressing satisfactorily. When finished it will be about four miles long, 328 feet wide at the entrance, and twenty-six feet deep. The highest point through which the canal must be cut is 260 feet.

The Duluth (Minn.) Improvement Company has been incorporated for the purpose of constructing a ship canal from Rice's Point connecting with the harbor. The incorporators are Andrew M. Miller, Andrew J. Sawyer, David A. Duncan, Luther Mendenhall and Alexander McDougall, all of Duluth. The capital stock is \$500,000.

The French engineers employed on the survey of the proposed canal through the Krai Isthmus on the Malay Peninsula, deny its practical feasibility, but declare that they have surveyed a feasible route less than fifty miles south of that originally proposed. Mr. Lesseps has also expressed his belief in the practicability of the latter scheme.

Ohio justly boasts of one of the greatest of canal systems comprising 782 miles, the construction of which cost \$16,000,000. It now pays the state a revenue of \$300,000 a year, and yet some short-sighted people are proposing to abandon the canals, because they are such "slow old things." If such a view of things should come to prevail, some \$35,000,000 worth of property would be come utterly worthless.

At the New York Canal Conference, which was held at Utica, N. Y., Aug. 21, it was stated that the Erie Canal delivered at the port of New York during the season of 1884, 37,501,424 bushels of grain, while the total receipts by all the railroads was only 28,049,020 bushels. Resolutions were also adopted demanding the perpetual preservation of the canals free and in a condition to satisfy the wants of commerce, and the passing of a law forbidding discrimination by railroads against shippers who use the canals.

Reports on the Panama Canal question are becoming more unfavorable than ever. Civil Engineer Menoal, who, under orders from Secretary Chandler, went to Nicaragua to revise estimates for the construction of the Nicaragua Inter-Oceanic Canal, says that work on the Panama Canal is progressing very slowly. Seventy per cent. of the whole distance has as yet not been touched at all; and only six per cent. of the whole work, he contends, has been done, while the cost is only between 3 and 4 $\frac{1}{2}$ per cent. of the total.

For years past a practice has been carried on by grain commission men of charging the Erie Canal boatmen exorbitant prices for the insurance of their cargoes in order to secure for themselves a large percentage on the amount of the insurance. The evil was checked by a law in 1881, and by a more stringent one in 1883. But both the laws stopped the fraud only temporarily; it has now broken out again in full force. There are insurance companies in Buffalo ready to accept a rate of fifteen cents per 100 bushels; but the commission men prefer paying twenty cents to other companies and getting five cents for themselves.

The Hennepin Canal project has of late been the topic of much interesting discussion. Illinois and Iowa, the states most interested in the enterprise, pay one-third of the internal revenue of the government, and produce one-third of the surplus grain of the country. Yet the great Northwest has not received one-tenth of the \$150,

000,000 appropriated for improvements since the organization of the government. Illinois, moreover, has spent \$10,000,000 or \$12,000,000 on the Michigan Canal and then donated it to the United States, provided it be completed to the Mississippi River, which would not take more than \$6,000,000. Yet the country west of the Mississippi would be more benefited by the canal than Illinois. It is firmly believed, however, that the next Congress will grant the appropriation which is required to complete this important waterway.

Bad feeling has been aroused of late among ship-owners discharging or loading grain at Port Huron on account of the frequent and big shortages in their cargoes, which they claim the elevators are to be blamed for. In several instances there were deficits of 400 or 500 bushels, and the latter shortage was successfully traced back to the weighing master. Other vessels discharging at Buffalo from Port Huron ran short from 146 to 402 bushels on cargoes of from 14,000 to 35,000 bushels. By these and numerous other instances vessel-owners have been fully convinced that there is a screw loose with the Port Huron elevators, and they seem to be pretty much disposed to shun the port until the cause for their complaint is removed.

The argument so often used against the expenditure of money for the improvement of rivers, that the railways carry five times as much freight as the boats, has been refuted by the *St. Louis Republican*, in proving that river transportation is an indispensable regulator of freight rates. It is a fact proven by experience that railroad rates are down when rivers have plenty of water and advance when the water is low. So, the easier and safer river navigation is, the lower the rates will be both by rail and water, an assertion which is illustrated by the fact that as long as there is good water in the upper Mississippi, railroads carry freight from St. Louis to St. Paul at the same rate as river boats, viz.: For ten and even five cents per hundred. But when the water falls and river transportation becomes difficult, the roads will put their rates up to forty cents. Improvement in Western rivers therefore means reduction in freight rates, which, it is stated, exceeds by far the cost necessary for proper river improvements.

There has recently been some lively discussion in the newspapers on the question, "Who built the Welland Canal?" A "Mechanic," who has been connected with the work for ten years, undertakes, in a letter to the *Toronto Globe*, to prove to the ignorant world that it was not Mr. Monro, to whom another correspondent assigned the glory of the great work, who is responsible for its design, he being merely "intrusted with the surveys of the various routes which the Chief Engineer of Canals, Mr. Page, conceived would be best adapted for the purpose." It has also been alleged that the designs for locks, weirs, etc., were executed by Mr. Monro; but the actual fact is that none of the large structures of the Welland Canal were designed by Mr. Monro, the plans, specifications and details being all furnished by Mr. Page himself. Mr. Monro's duties on the Welland Canal, "Mechanic" asserts, were not of an engineering character at all, but he merely forwarded the monthly reports of the engineers, etc., to the Chief Engineer at Ottawa.

The Erie Canal is a far too important factor to the lumbering interests of the state of New York to be ignored. Cheap canal transportation to the seaboard is not only of direct benefit to the inhabitants of the state, but affects, also, all those Western shippers and merchants who utilize the lake route to Buffalo and Tonawanda as the best means of bringing their lumber to market; and the better the Erie Canal can be used for its legitimate purpose, the larger will be the benefit accruing to the lumbering interests of the Northern states. It is a well known fact that its capacity has, of late years, become insufficient to counter-balance the very close competition of the railroads; deeper water and larger locks are demanded, which will enable the boats used at present to take a bigger load, and by a saving of time in the larger locks, make, perhaps, two more trips during the season. The question has of late been extensively agitated by shippers and boatmen, and at a call for a canal conference at Utica recently, the response was most encouraging and harmonious. The often discussed question of national aid for the Erie Canal was rejected, as the Empire state was considered wealthy enough to maintain a free canal with a capacity in keeping with the present times. An urgent appeal is to be made for the appropriation of money to increase the size of the locks so that two boats can go through at the same time; and to clean the bottom of the canal, and by piling the dredgings on the banks, increase the depth of water at least one foot, which will allow the use of steam towing. With these improvements the canal is considered to be in a condition to meet all the demands for some time to come, and thereby maintain its high office as a regulator of freight charges between the West and the seaboard. Bo h political parties of the state will be called upon to insert planks to that purpose in their platform for the coming fall campaign, and it is not at all impossible that the one who refuses to do so will be the party that has to bear defeat in the coming election.—*Exchange*.

THE FLAX CROP.

This year's flax crop will amount to about 10,000,000 bushels, of which 30 per cent. is produced in Iowa, 25 in Dakota, 20 in Minnesota, and 10 in Kansas. The remainder is divided among Nebraska, Missouri, Illinois, Ohio, Indiana, Wisconsin and Michigan.

Fires, Casualties, Etc.

Edward Fly, grain dealer, Putnam, Conn., has suffered loss by fire.

J. C. McClure, of the grain firm of McClure & Towle, Gunnison, Col., is dead.

Brinton Walter, grain and lumber dealer, Christiana, Pa., has been burned out.

Samuel White, grain and lumber dealer, of Mineral Point, Wis., died recently.

The Waters Elevator, owned by Schwartz Bros., at Carlinville, Ill., was burned on Aug. 25. Loss, \$8,000; insured for \$5,000.

Van Dusen & Co.'s elevator and coal shed, at Minnetonka, Minn., have been burned. The origin of the fire was not ascertained.

Wm. H. Taylor, an old resident of this city, and at one time a grain operator on the Board of Trade, died at Cleveland, Ohio, Sept. 10.

In the village of Woosung, Ill., six miles north of Dixon, a boy named William McGraw was suffocated in Prescott's elevator, Sept. 8.

The distillery of Spencer, Wade & Co., near Nashville, Tenn., was burned on Aug. 29, together with the granary and warehouse, involving a loss of \$70,000.

The large grain elevator belonging to Jones, White & Corbet, at Nevada, Ohio, has been destroyed by fire. Estimated loss, \$10,000. The elevator will be rebuilt.

The Glenwood Distillery, near Lawrenceburg, Ind., was burned on Aug. 26. It belonged to Mr. Walsh, of Cincinnati. The loss was \$12,000; insured for \$8,000.

At Rushville, Ind., burglars recently blew open the safes of the Gem Mill Company and Reed & Buell's elevator, securing \$50 and checks in the former, besides ruining the safe.

The "Rhodes Flouring Mill and Elevator," at Wells-ville, Mo., were destroyed by fire Aug. 30. The loss was placed at \$9,000. The fire originated from spontaneous combustion.

On Aug. 19 the grain warehouse of W. T. Wells, at Sherman, Tex., was completely destroyed by fire. The warehouse was valued at \$3,000; insured for \$1,500. The fire originated on the inside, but no clew as to its origin has been discovered.

During a thunderstorm some time ago three men, while shingling a new elevator at Idana, Kan., were struck by lightning. One of them, named Riley Woodside, was instantly killed; his two companions were stunned, but escaped injury.

A large grain warehouse at Alexander, Iowa, burned on Aug. 22. J. H. Million, of Keokuk, and A. S. Mason, of Alexander, lost \$35,000 in grain; insured for \$35,000. The loss on the building was \$4,000; insured for \$2,000. Incendiarism was suspected.

Chas. Keeler, an employee of the Des Moines (Iowa) Linseed Oil Company, was seriously hurt, recently, while engaged in lowering a barrel of oil into a cellar, the handle of the windlass slipping from his hand and cutting a terrible gash over his right eye.

At the new town of Emery, twenty miles west of Grand Forks, Dak., two elevator crews of twenty men each engaged in a war with fists and clubs recently. The fight lasted about an hour. Several were seriously injured, and one, it was feared, fatally.

A man named Daniel Whalen, an employee in Elevator B, St. Louis, Mo., was accidentally killed Sept. 8, by the elevating machinery. His arm became entangled in the belt, and he was thrown violently forward, and was crushed so badly that he died in a short time.

Kemmerer, Lamb & Co.'s elevator, at Independence, Iowa, was burned to the ground, with its entire contents, Sept. 11. Eleven loaded cars belonging to the Burlington, Cedar Rapids & Northern Railway Co. were also consumed. Loss on elevator and contents, \$12,000; insured for \$9,200.

John Wheeler, the watchman for the Pillsbury & Hulbert Elevator Company at Grand Forks, Dak., who murdered a man named Abrahamsen at Michigan City, Ind., a few months ago, was brought into court on Aug. 28, upon representation that the bond should be increased or Wheeler confined.

Heinman's grain elevator at Macon, Ill., erected by Walker Bros., was destroyed by fire on Aug. 31, involving a loss of \$10,000; insured for \$6,000. Four thousand bushels of wheat were consumed. The fire was thought to have been caused by a spark from a passing engine on the Illinois Central Road.

A young man named John Kehoe, who was employed in Kueloff's elevator in the town of Lake, Ill., was stabbed to death by an Italian fruit-seller at Chicago, on Sept. 13, during an altercation arising from young Kehoe and several of his friends helping themselves to some of the Italian's fruit without paying for it.

The freight depot of the Cincinnati, Hamilton & Dayton Railroad, at Cincinnati, Ohio, the upper stories of which were used by the Cincinnati Malting and Warehouse Company, J. R. Megrue & Co., proprietors, was

totally destroyed by fire Sept. 3, together with an immense quantity of grain which was stored in the building. The loss of the malting company was \$150,000; insured for \$100,000.

Charles B. Pope, one of the oldest and wealthiest veterans of the Chicago Board of Trade, and for many years a member of the commission firm of Davis, Pope & Co., died of consumption of the stomach, Aug. 31.

Grain Inspector Black, of Milwaukee, Wis., was thrown from his buggy on Aug. 24, near Shea's elevator, striking the edge of the pavement with great force. He was badly bruised, and one of his ribs was thought to be broken.

The Litchia Springs Distillery, owned by Mayor W. H. McCormick, of Beardstown, Ill., was entirely destroyed by fire on Sept. 10. The origin of the fire was not ascertained, though it was generally supposed to have been the result of the negligence of employes who were engaged in cleaning the machinery preparatory to starting the work.

NOTES FROM THE EXCHANGES

Tickets of membership to the New York Produce Exchange have ruled dull at \$2,700.

The new building of the Duluth (Minn.) Board of Trade will be ready for occupancy in December.

The new building of the Board of Trade and Chamber of Commerce at Denver, Col., will be formally opened on Sept. 22.

The Duluth (Minn.) Board of Trade has decided to increase its membership from 200 to 300. The additional 100 memberships will be sold at \$500 each.

The grain inspector of Toronto, Can., is bound by an order in council to furnish regular returns of grain inspected by him, to the Secretary of the Board of Trade of Toronto under a penalty of \$5 a day for failing to do so.

At the weekly meeting, Sept. 8, of the Chicago Board of Trade Directors, the ocean bill, being the same as now in use on the New York Produce Exchange, was adopted, while the inland bill was referred back to the committee for further consideration.

Chief Grain Inspector Price, of Chicago, has given notice that no more certificates of inspection will be issued on grain "subject to approval." Such grain will be re-inspected after it is transferred, if in a reasonable distance. Grain inspected "subject to approval" must be specified in the notices, and can be sold under those conditions.

Members of the Portland (Oregon) Board of Trade have hit on a novel scheme for attracting immigration to their state. It consists of what they call a "missionary car," fitted with the choicest specimens of the fruits, grasses, grains, and woods of Oregon. This exhibit will be taken on a tour through some of the Eastern states, the railway companies furnishing free transportation.

THE CHICAGO GRAIN RECEIVERS' ASSOCIATION.

At a meeting of the Chicago Grain Receivers' Association, held at Chicago on Aug. 27, the chief topics of the discussion were a better and more perfect weighing of grain and the discriminations in freight rates against Chicago and in favor of other markets.

The special committee appointed Oct. 30, 1884, to recommend a better system of weighing, reported that after a year's experience with the Hopper-scale system of weighing and transferring, as adopted by the Lake Shore & Michigan Southern Road, it gave great satisfaction when compared to the track scales. There had been a better system in the track-weighing during the past year, but even the railroads that had passed a rule making track weight final, acknowledged it to be faulty. Therefore the committee recommended that after Jan. 1, 1886, only Hopper-scale weights be accepted as final. The resolution which then was offered by one of the committee, "That from and after Jan. 1, 1886, Hopper-scale weights only shall be considered final and conclusive, and that any claim for shortage arising from track-scale weights, if not duly and promptly paid by the railroad company responsible therefor, shall be properly prepared and furnished to the Railroad and Warehouse Commissioners of the state of Illinois for collection, with the request that the party so complaining shall have all the benefits and protection accorded to him that the law contemplates and allows," was unanimously passed after some discussion pro and contra. In answer to an opinion of Mr. Underwood that the resolution was all in favor of the receiver, Mr. Wanzler stated that repeated complaints had been made both by receivers and shippers on shortages in grain sold by sample in Chicago, from either country or terminal weights, and receivers said that this trouble has caused grain to be diverted from Chicago. It was also shown that on lake ship-

ments, where Hopper-scale weights are used at both ends of the route, the loss is 1.4 bushels in a 1,000, while on rail shipments, where track scales are in use, the loss was 4.6 bushels. A committee of four was then appointed for the purpose of conferring with the directors of the Board of Trade with a view of carrying out the above resolution.

In reference to the freight discriminations, the cut from river points by the railroads was denounced as an outrage which, it was said, must not be tolerated, as it was a matter of life and death to the Chicago market, and it was agreed that the Association's Committee on Transportation confer with a committee of the Board to devise some plan to stop the freight discriminations against Chicago.

The Committee on Terminal Charges received complaint that \$4 was being charged for transfers to Norton's, Eckert & Swan's, "Meek's Mills," and the Commercial Warehouse.

TO ELEVATOR AND MILL MEN.

A young man would like a situation in elevator or feed mill. Have had ten years' experience in the elevator and grain business and produce commission. Good references furnished. Address
Box 458, Ypsilanti, Mich.

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FOR SALE CHEAP.

A new Fanning Mill. For particulars address
M., care AMERICAN ELEVATOR AND GRAIN TRADE, Chicago, Ill.

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Elevator of 80,000 bushels' capacity, with warehouse, office, and scales. New machinery; hay press; coal house (for coal trade), etc. Address
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FOR SALE.

An elevator situated in the best farming country in Kansas. Also city dwelling property. All for \$10,000. For full description and terms write to the
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Situated on a trunk line, in Ohio and Indiana, in good towns, four nearly new grain warehouses, strictly first-class throughout; for sale cheap. Best of reasons given for wishing to sell. Address
E. E. Co., care AMERICAN ELEVATOR AND GRAIN TRADE, Chicago, Ill.

GRAIN ELEVATOR.

We have for sale, very cheap, one-half interest in a grain elevator of 30,000 bushels' capacity, with engine, boiler, sheller, etc., in perfect order, in a town of 2,000 inhabitants, and one of the best grain points in Illinois.
A. E. CLARK & Co., No. 53, Board of Trade, Chicago.

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In Central Illinois, a good steam elevator, equipped with the best machinery, sheller, grain cleaner, mill for grinding meal and feed, three dumps, etc. Capacity of elevator, 10,000 bushels; of corn cribs, 35,000 bushels; thirty miles from Peoria. This station ships more grain than any other on the road. Only two elevators here. Price, \$2,500; no less. Good reason for selling. Address
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An Iowa elevator, situated on the C. B. & Q. Railroad. Finest corn district in the state. It is furnished with all the improved machinery; drag belt, crib, three dumps for ear-corn, dumps for small grain; 10,000 bushels capacity and 20,000 bushels crib room. Office and scale on corner lot, with stock yard attached. Elevator has good trade. Prospects for crop are first-class. Address
Box 91, Afton, Iowa.

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A No. 5 Victor Smutter, Barnard & Leas' manufacture; also one Reed's Novelty Grain Separator, tip-top, for cleaning flax seed. Both machines in first-class condition, and have been very little used. One Smith & Beggs Engine, 14x24 stroke, piston valve, vertical steam feed pump. Boiler 20 feet long, 48-inch shell, cast-iron front, breeching and grate bars. Stillwell & Bierce heater, 24 inches diameter. Smoke stack, guy rods, steam pipe, and everything complete for setting up. Engine in good running order. Will sell cheap for cash. Address

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say a good word for you, to any one you may refer to us.
Yours truly,
SMITH, HIPPEN & Co.

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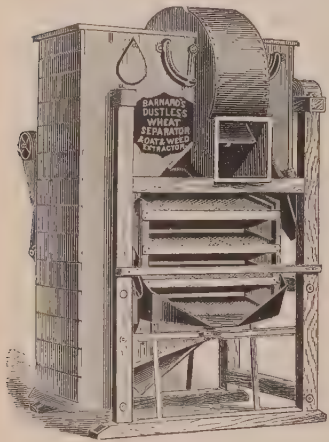
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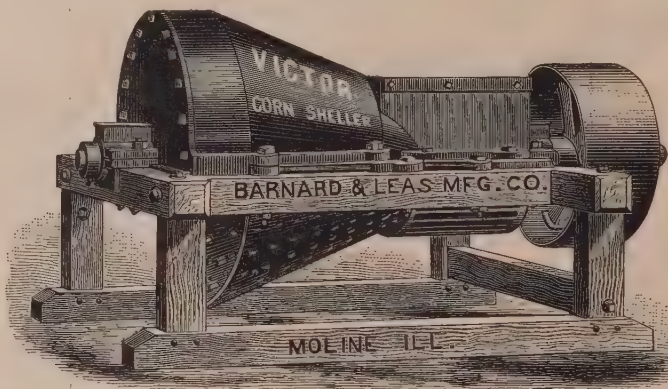
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Yours truly,

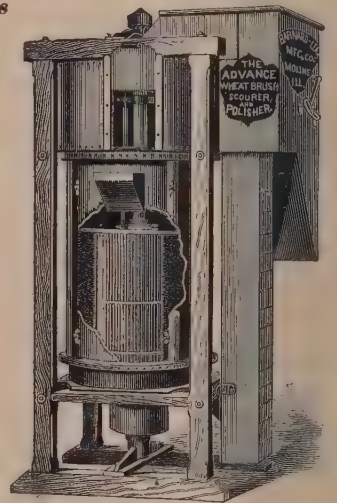
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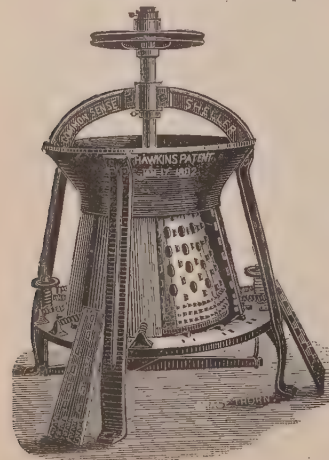
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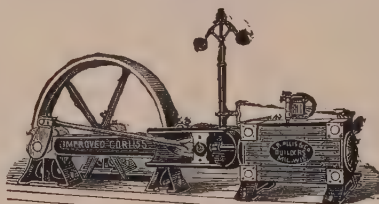
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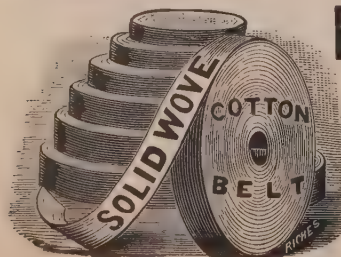
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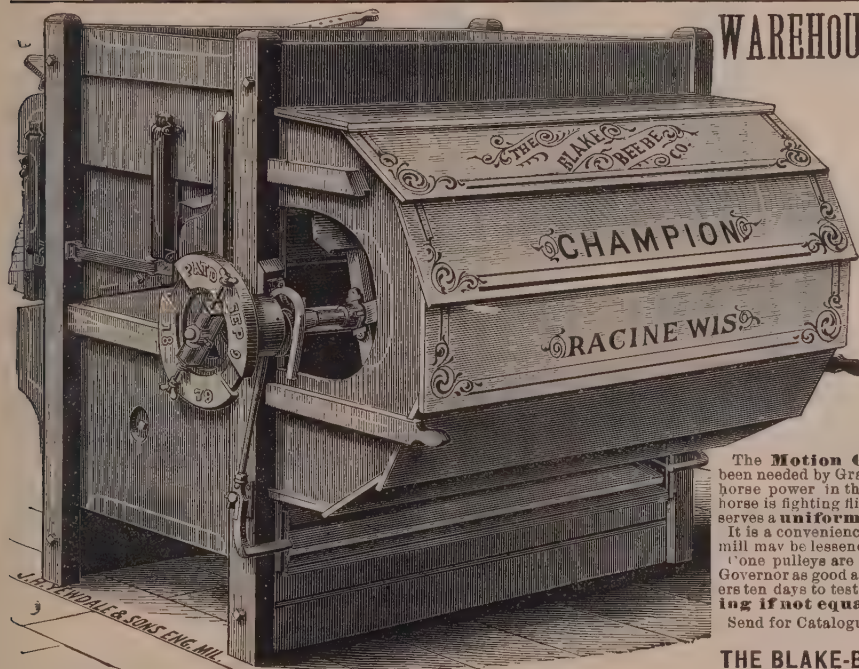
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The **Motion Governor** is something that has long been needed by Grain men, particularly by those who use horse power in their elevators, for it matters not if the horse is fighting flies, jumps or runs, this Governor preserves a **uniform and steady speed**.

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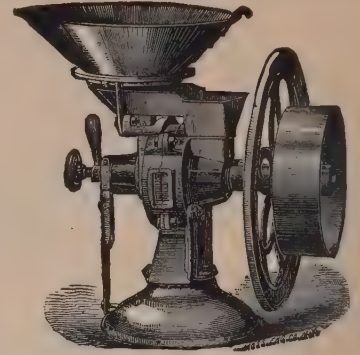
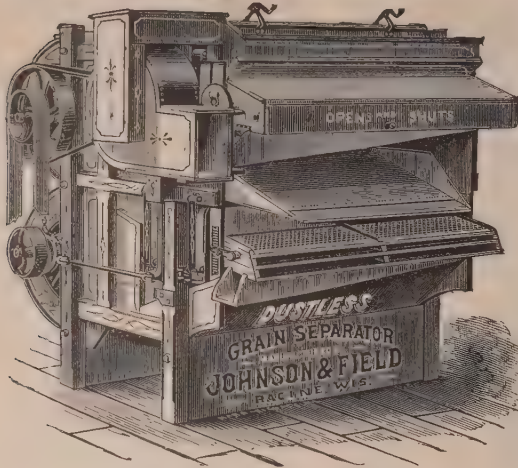
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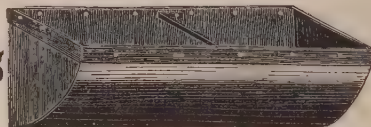
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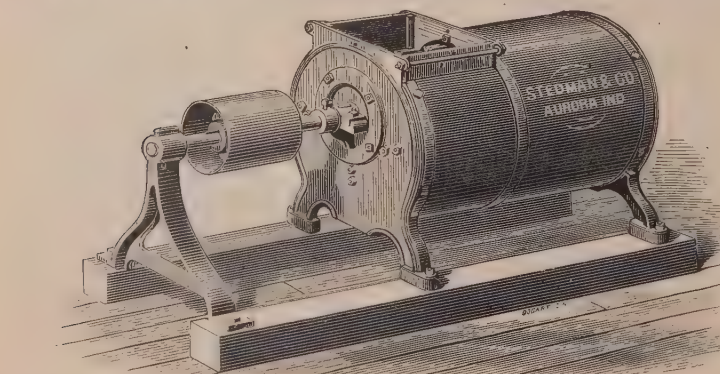
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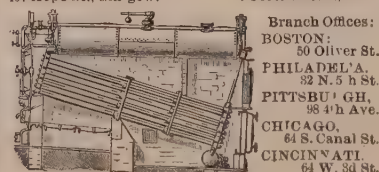
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Illinois Central "A," Chicago.....	1,000,000	Galena, Chicago.....	750,000
Illinois Central "B," Chicago.....	1,600,000	Union, Chicago.....	700,000
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Canton No. 1, Baltimore.....	500,000	Erie, Buffalo.....	700,000
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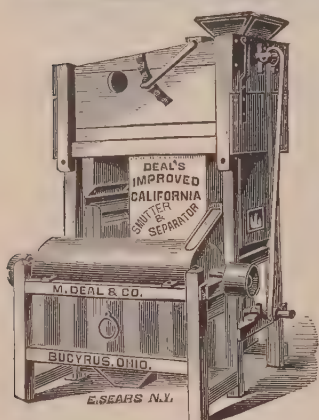
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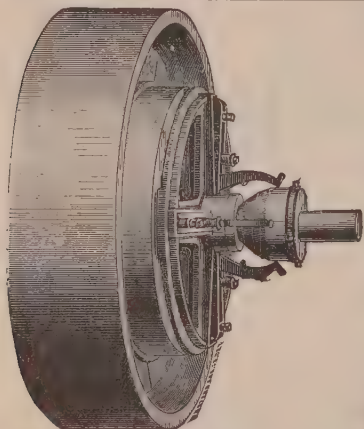
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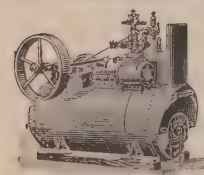
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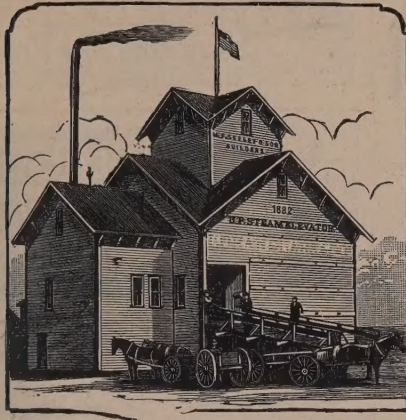
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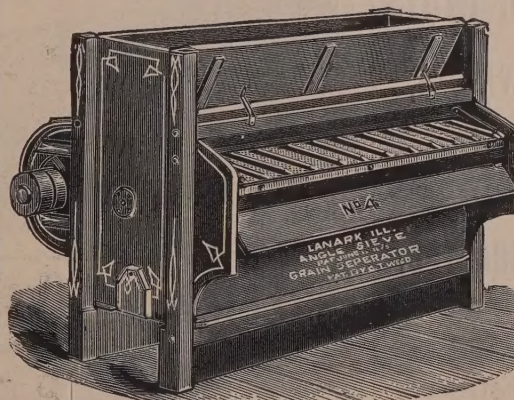
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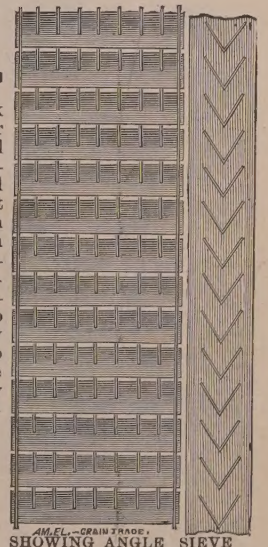


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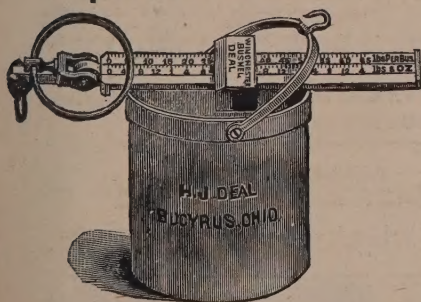
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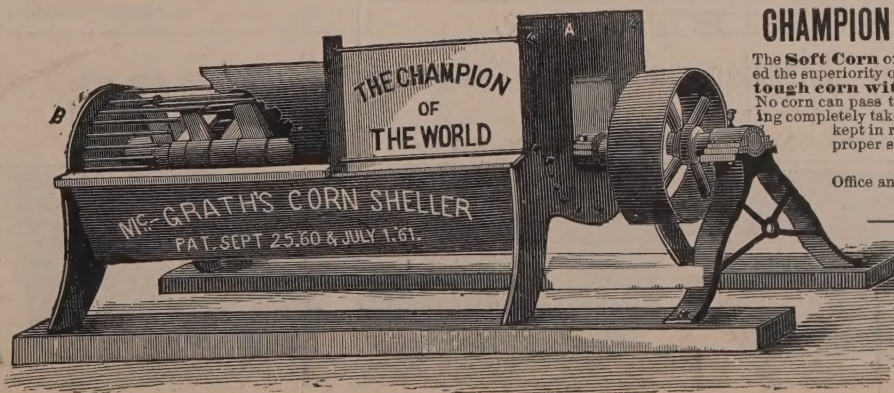
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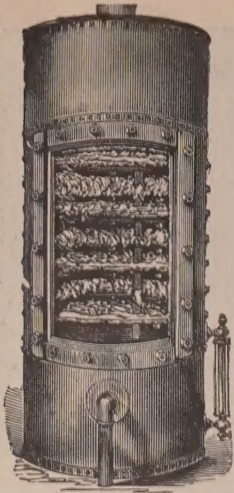
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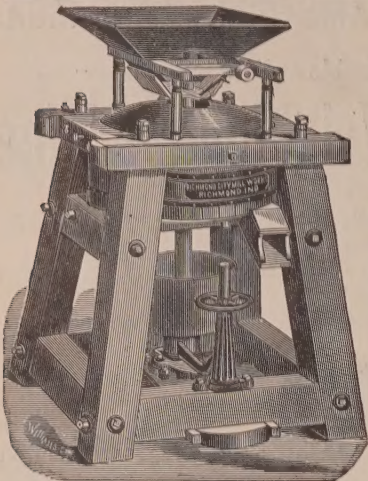
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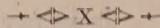
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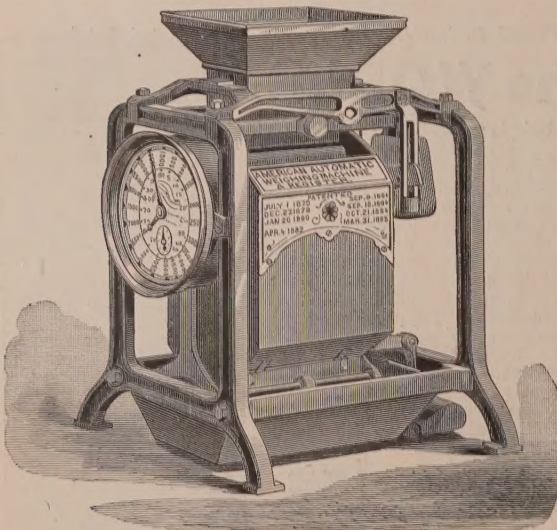
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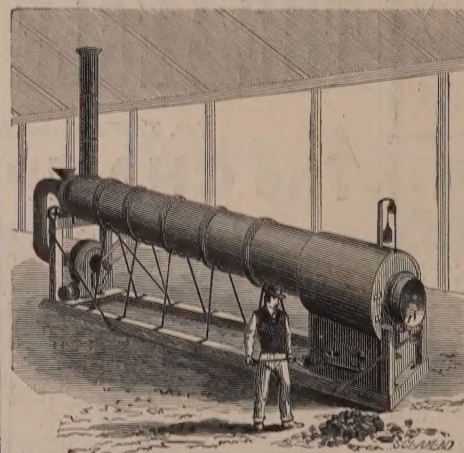
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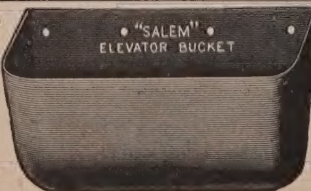
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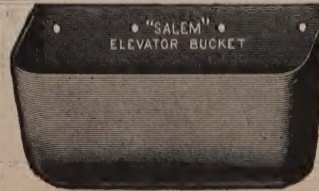
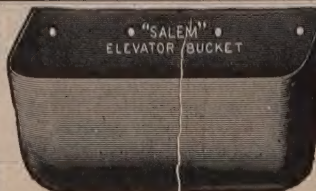
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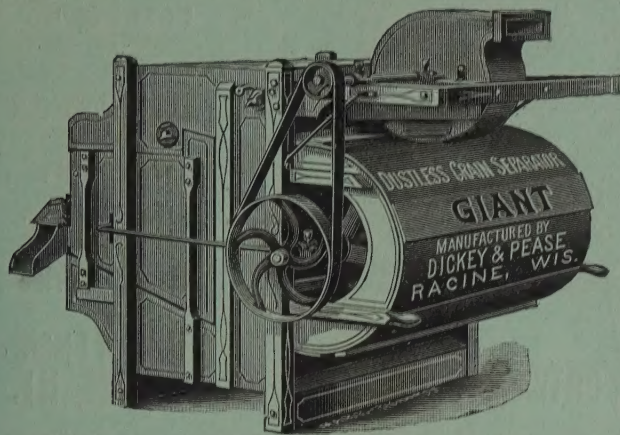


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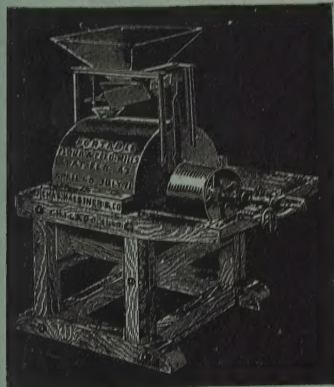
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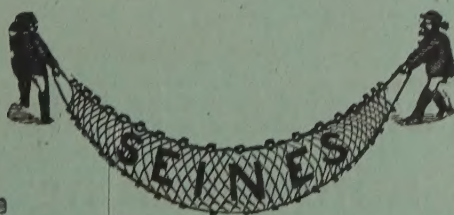
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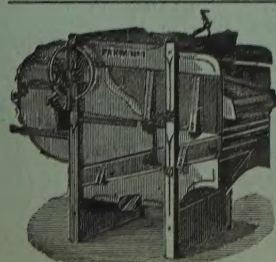
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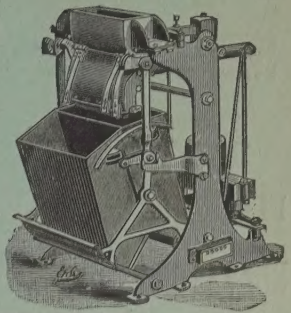
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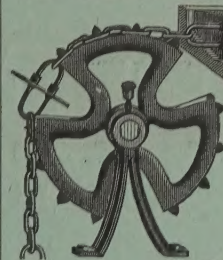
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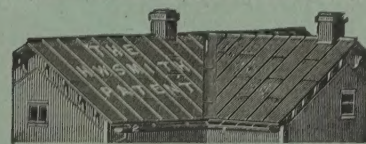
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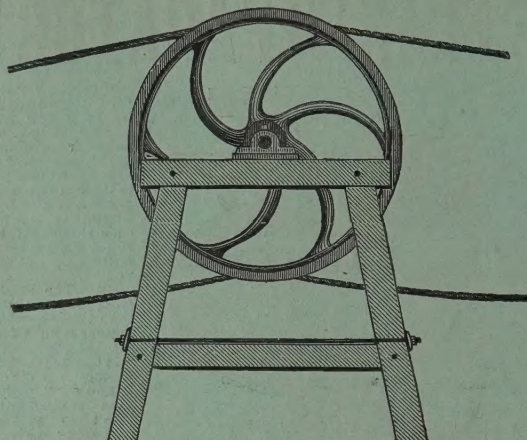
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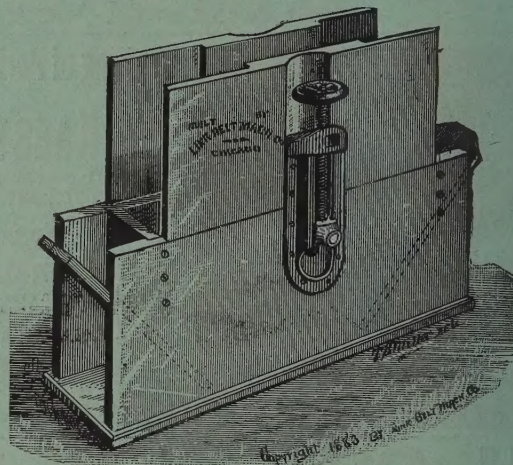
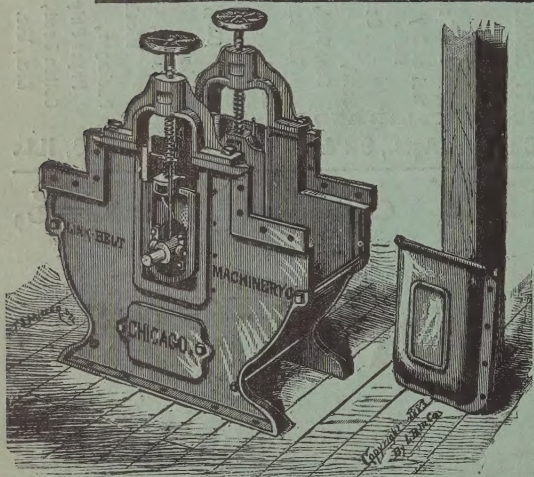
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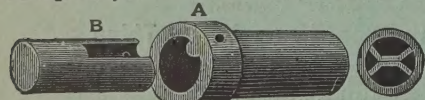


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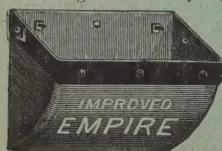
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